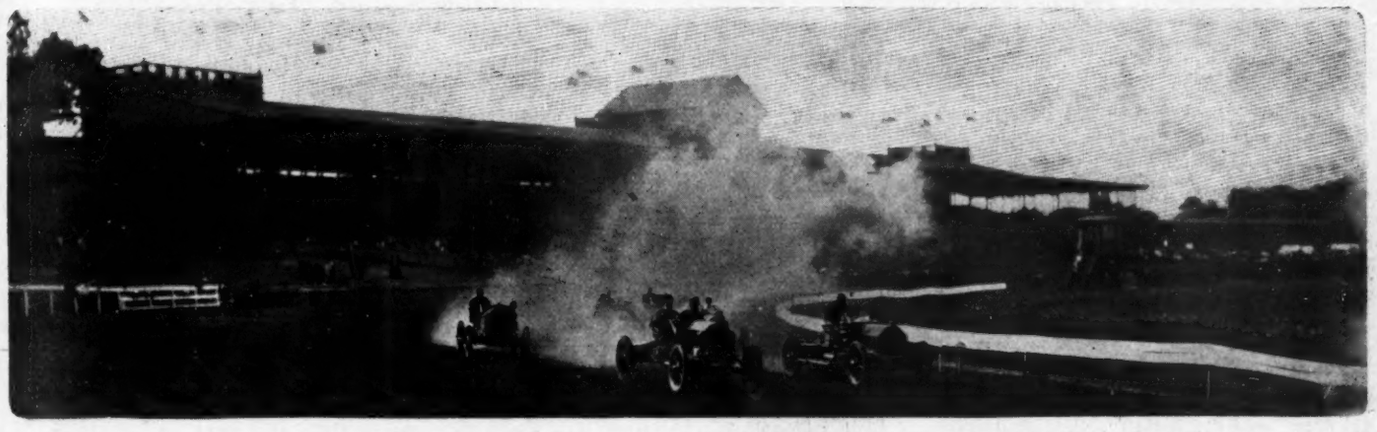
VOL. XII No. 11 CHICAGO, SEPTEMBER 12, 1907 PER YEAR $2

MOTOR AGE

RENAULT WINNER OF THE MORRIS PARK 24



CONTESTING CARS IN NEW YORK 24-HOUR RACE ROUNDING FIRST TURN AT MORRIS PARK

NEW YORK, Sept. 9—Maurice Bernin, occasionally relieved at the wheel by Paul LaCroix, was returned the winner of the 24-hour single-car race, which was the chief feature of the opening meet of the Morris Park Motordrome Club which ended at 5 minutes before midnight last night. The winning Renault, a 35-horsepower roadster of the new so-called Vanderbilt type, scored 1,079 miles, an average of 44.9 miles an hour. This is a new American single-car track competition record and beats by 82 miles the 997 miles put up by Montague Roberts and the 60-horsepower Thomas Flyer at the recent Brighton Beach race over a mile course, the Morris Park contest being run on a track 1.39 miles in circuit. The new figures, however, failed by 15 miles of reaching the 1,094 3/16 miles scored in a trial against time at Indianapolis 2 years ago by Jap Clemens and C. Merz in a National.

The runner-up was a 40-horsepower Lozier driven by L. W. Smelzer and William Linkroum, which scored 972 miles. A 35-horsepower Hotchkiss driven by H. J. Kilpatrick and Harry Hawkins was third with 892 miles, and a 35-horsepower Alden-Kingston piloted by A. L. Campbell fourth with 681 miles. These were the only cars of the nine starting to remain in the race for 24 hours. The first car to quit was a 60-horsepower Matheson driven by J. B. Ryall, which was put out in the third hour by a broken connecting rod. The next to fall by the wayside was a Packard Thirty piloted by Wallace Owen, which broke an axle in the fourth hour. It is claimed the axle was damaged in the recent fatal practice accident on the course. In the fifth hour a Lozier with H. Michener, Tom Lynch and R. Mulford for its crew, was virtually put out of the running by a broken front wheel, though it persevered in the race until the fourteenth hour. It had led up to its accident. Two 60-horsepower de Dietrichs, one driven by Frank Fuller and the other by George Mack, gave up the fight respectively in the twenty-second and twenty-first hours.

The attempt of the owners of the property to revive the motor racing glories of Morris Park and inaugurate a new series of meets on the famous old course may be put down as a success. They say that the financial returns were far beyond expectations, having more than paid the actual cost of running the meet and gone some way besides toward meeting the large outlay needed to oil and put the course in shape for racing. The total outlay was close to $10,000 for preparing the course and running the meet. Considerably more than two-thirds of this was met by the gate and other receipts. The purse in the 24-hour race was $1,000 and there were handsome silver cups for other contests. A certified check for $1,000 was put in the hands of A. R. Pardington and the cups were given the winners by the meet officials as fast as they won them.

The meet was given on short notice and at the eleventh hour the 24-hour contest was changed from a relay to a single-car contest. Dealers were then caught unprepared, so only nine entries were forthcoming. So great enthusiasm, however, was provoked by the outcome that fourteen entries have already been pledged for the next race, which will be run 3 or 4 weeks hence, and is likely to have at least twenty starters, judging from the present temper of the trade.

In the short time allowed great changes were accomplished at Morris park. The inner fences at the turns were taken down and canvas barriers substituted, obviating danger from rail-smashing exploits. The long-neglected course was worked over and oiled. The curves were considerably banked. A big score board and a press and official shanty were erected.

During the night before the start there was a heavy rainstorm, which left the course a quagmire of mud, water and oil in the morning. A race looked hopeless, but during the day the sun and the rollers did wonders until at least a slow but usable course was ready for the afternoon races and the start of the 24-hour race at 9 o'clock. The course was very slow during Friday afternoon. The best George

General View of Track During Race

Railbirds Watching Race at Night

Robertson could do with Elliot F. Shepard's 90-horsepower Hotchkiss, which was a competitor in the Vanderbilt cup race last year, was a mile in 59⅕ seconds. The course was soft and rough for the 24-hour racers, but so improved with the racing that Robertson on Saturday afternoon was able to show with the same car a mile in 54⅗ seconds, as against the track record of 52⅕ seconds made in ye olden days of the course by Chevrolet in the Fiat of Major Miller's.

The motor contingent was an enthusiastic supporter of the meet, and stood by the new project liberally, though despite the distance and inaccessibility of the track to non-car owners the attendance of the public was remarkably large. On Friday afternoon there were 200 cars on the lawn and 1,000 spectators lost in the great grand stand besides. That night the number of cars was doubled and fully 3,000 spectators were in the seats, on the lawn and along the rail besides. There was about the same afternoon and evening attendance of cars and the outside public on Saturday. In a word, racing at Morris Park seems likely to be a go and a paying venture. The trade seems to think that racing is a good thing for business, for the talk at the track was all of putting cars in commission and entering the next contest of the new club.

So far as active and interesting competition went the race was too one-sided after the fourth hour to admit of the excitement of doubt of the eventual winner, barring accidents. It was a case of waiting for something to happen to the Renault. It never did. Bernin took no risks and let the French car run smoothly along at a safe pace of 45 miles an hour average, which was fast enough to add in the neighborhood of 4 miles an hour to the previous single-car competition figures. But two cars, both American machines, gave any evidence of having speed enough in them to outpace the smart French roadster driven by Bernin.

A 60-horsepower Lozier driven by H. Michener went into the lead after the initial scramble and showed a clean pair of heels to its pursuers with a run of 48 miles the first hour, its nearest pursuers being the Renault with 45 and the Packard with 43 miles. The Lozier increased its lead to 8 miles the next hour with an impressive score of 100 miles, with the Renault and Packard racing neck and neck as runners up. The American beat the Frenchman by a mile the third hour.

In the fourth hour disaster in the shape of a broken front wheel overtook the leader. Its mate, a 40-horsepower Lozier, driven by Smelzer, which had been running fourth, jumped to the rescue, passed the Renault and took the lead with a score of 180 miles. With a run of 47 miles, however, Bernin got into first place and held it to the end with the Lozier for its runner up the entire distance.

The Michener Lozier was finally put out of the running between 9 and 10 o'clock in the morning, when its steering gear broke on the backstretch. By a lucky decree of fate the car swerved through an opening in the outer fence that had happened to be left, luckily passing between two posts 12 feet apart.

There was no incident or accident to break the monotony of the Renault's runaway, except that Paul La Croix himself took the wheel for 6 hours on Saturday morning, until an unusual mishap befell the A-K during the intermission on Saturday afternoon, which puzzled the official solons a bit for a solution. At 1:50:49 o'clock the race was stopped for track repairs and the running of the Saturday afternoon program. The cars were drawn up at the track side until they were started again at 3:45:49. No one was permitted to touch the cars during the intermission. Just before the racers were again started A. L. Campbell backed the Hotchkiss into the A-K, breaking its radiator. After a long consultation the referees decided that A-K could mend its radiator and have the number of miles added to its score represented by its previous average mileage reckoned for the time of its absence from the track. Accordingly its score was jumped from 445 miles at the time of the accident to 579 miles at the end of the twenty-first hour while it was being repaired. It was an initial tryout for the A-K, by the way. It is the first car to be turned out by the Kingston Motor Car Co. The stockholders—E. Russell Thomas, W. G. Brokaw, O. F. Thomas, H. N. Allen and W. C. Allen—had decided that the race would furnish a fine chance of testing out the

TWENTY-FOUR HOUR SINGLE-CAR RACE RUN AT MORRIS

Score by Hours Compared with Previous

Finish	Car and No.	H.P.	Drivers	*1-h. 46 m.	2-h. 99 m.	3-h. 143 m.	4-h. 185 m.	5-h. 236 m.	6-h. 268 m.	7-h. 308 m.
1	Renault, 5	35	M. Bernin P. La Croix	45	92	138	179	226	271	314
2	Lozier, 21	40	C. W. Smelzer. W. Linkroum	37	85	133	180	219	267	313
3	Hotchkiss, 6	35	R. S. Kilpatrick H. Harkins	39	80	123	153	172	215	243
4	Allen-Kingston, 9	35	A. L. Campbell	29	47	47	63	100	133	154
5	De Dietrich, 1	60	F. Fuller C. Barton	37	69	75	107	150	186	212
6	De Dietrich, 2	60	G. Mack T. McCann	40	85	126	154	194	240	249
7	Lozier, 8	60	H. Michener T. Lynch R. Mulford	46	100	143	172	176	215	240
8	Packard, 4	30	W. H. Owen	43	92	139	.....	.....	.....	.....
9	Matheson, 3	60	J. B. Ryall C. Reifienberg	40	54	.....	.....	.....	.....	.....

* Previous Record.

new car which they had just built. A big crowd watched the closing hours of the race on Saturday night. Fully 200 cars remained until the end at midnight. At the finish there was the usual rush on the track to greet the winner and the unusual spectacle of French women climbing on the car to kiss the dirt and oil-begrimed face of the victor was witnessed. Maurice Bernin is a veteran at track, beach and road driving in this country. His handling of the Renault was voted perfection by the spectators.

The lucklessly eliminated Lozier, by the way, covered 100 miles in 2 hours 1 minute 49 seconds, a new track competition record. The Renault's time for 1,000 miles was 22 hours 10 minutes, also a new track competition record. Jap Clemens scored 21 hours 58 minutes for 1,000 miles in his time trial with the National.

Most important of the preliminary races on Friday afternoon was the 50-mile contest. It had for starters four French and three American cars made up of three de Dietrichs, a Renault, two Stearns and an Allen-Kingston. George Mack in 60-horsepower de Dietrich led for the first three laps, when he was passed by Arthur Warren in a 30-60-horsepower Stearns. Warren held the lead and looked a comparatively easy winner up to the twenty-seventh lap, when Mack got by him. The pump shaft of the Stearns had broken. After the water had boiled out of the radiator the pistons seized and cracked a cylinder. Mack won, his time for the thirty-six laps of 1.39 miles each being 56 minutes 49⅘ secondls. Maurice Bernin, 45-horsepower Renault, was second in 1 hour 35 seconds, and A. L. Campbell, 35-horsepower Allen-Kingston, third, in 1 hour 13 minutes, 6⅘ seconds.

A four-lap handicap race, about 5½ miles, for de Dietrich cars, was won by George Mack, 5 seconds, in 6 minutes 56⅗ seconds, with George Robertson, scratch, second in 6 minutes 52⅗ seconds actual time. A four-lap match race was won by J. D. Ryall, 60-horsepower Matheson, in 6 minutes 17⅗ seconds. W. H. Owen, 30-horsepower Packard, was second, in 6 minutes 51 seconds. This wound up the sprint races and the crowd turned its attention to the two novelties, the flexibility test and the gymhkana.

Winthrop E. Scarritt put up a cup for what he called a flexibility contest. Each car ran 2 miles—one a fast one and the other a slow one on the same gear. For each second scored faster than 80 seconds in the fast mile three points were allowed and for each second slower than 4 minutes in the slow mile a point was given. The result of this contest was:

Driver	Car	Fast	Slow
1—Paul Hines...	Pope-Htfd ..	77 4-5	9:41 2-5
2—W. Swan....	Stearns	62 2-5	7:41
3—A. L. Campbell.	A-K	68 2-5	5:04

The points won in the above order were 378,273⅘ and 96⅘.

Three trials for mile records were made during the intermission on Saturday afternoon. George Robertson, driving Elliot F. Shepard's 120-horsepower Hotchkiss Vanderbilt cup racer, made the mile in 54 2-5 seconds as against the gasoline track record of 52 1-5 seconds. Montague Roberts could do no better than 60⅘ seconds with the Thomas Vanderbilt cup racer. William McCulla essayed to pilot the 1905 Vanderbilt cup-winning 80-horsepower Darracq. It had a broken spring, however and was slowed down before the finish, scoring but 1 minute 34 seconds.

The gymhkana events amused the Saturday afternoon crowd greatly. This was particularly true of the so-called polo match. At one end of the homestretch two barrels were set up. On top of each was a round leather football. The poloists started from the other end each of the two occupants of the car being furnished with polo sticks. They raced down the stretch, circled the barrels, knocked off the footballs and drove them up the stretch with their mallets. The game required skillful handling of the car in steering, stopping, backing and pursuing. At times the footballs would get under the car. An out and out polo game in cars would make an interesting event.

The other gymhkana game consisted in driving to a barrel, backing around it, racing to another barrel at the other end of the stretch, turning, stopping and picking up cards from beneath the barrels at each end of the stretch. Arthur Rowley handled a 35-horsepower de Dietrich so cleverly he won the gymhkana events.

ARK MOTORDROME, NEW YORK CITY, SEPTEMBER 6-7, 1907

ingle-Car Track Competition Records

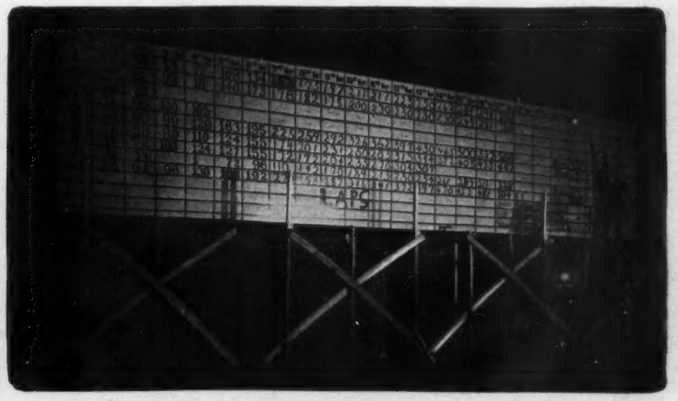
8-h. 354 m.	9-h. 402 m.	10-h. 450 m.	11-h. 489 m.	12-h. 532 m.	13-h. 580 m	14-h. 615 m	15-h. 654 m.	16 h. 691 m.	17-h. 733 m.	18-h. 779 m.	19-h. 810 m.	20-h. 848 m.	21-h. 87 m.	22 h. 920 m.	23-h. 963 m.	24-h. 907 m.	Miles Per Hour
330	406	453	508	552	597	646	695	736	787	826	871	909	951	995	1032	1079	44.9
339	399	440	474	517	552	597	629	668	701	724	771	807	852	892	927	972	40 5
292	322	347	393	435	478	517	563	604	649	691	723	750	782	866	862	892	37.1
198	236	265	393	333	353	364	401	431	456	456	456	456	481	617‡	642	681	28.3
244	279	293	298	310	347	364	401	414	414	425	447	464	495	.....	.....	.....	23.5
249	249	280	319	320	320	320	342	390	431	482	500	540	.....	.....	.....	.....	27.0
240	286	328	375	422	426	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	32.7
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	46.3
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27.0

‡ Met with accident during intermission and allowed average miles during absence from track.

RACE VICTIMS BURIED

Denver, Colo., Sept. 8—William B. Felker and Clarence V. Dasey, victims of the race meet on Labor day in this city, were buried last week, Mr. Felker on Thursday afternoon and Mr. Dasey on Friday afternoon. This allowed the agents and employes of all the garages in the city to pay their last respects to the dead. The offerings of flowers on each occasion were something extraordinary—at the Felker obsequies it required four carriages to take them to the cemetery. The Felker funeral was conducted by the Masons and the Dasey funeral by the Elks.

Scene at Finish of 24-Hour Race



Night View of Score Board of 24-Hour Race

CLEVELAND PROMOTES SEALED BONNET TEST

GAETH AND BUICK, TWO PERFECT SCORE CARS THE FIRST DAY

CLEVELAND, O., Sept. 10—The first day's runs of the Cleveland Automobile Club's sealed bonnet contest will go down in motor history as an event which tried the staying qualities of cars to the uttermost. Pulled off in a driving rain over sand and clay roads which were made as slippery as soft soap by a thorough soaking and which were almost impassable in places because of repairs; over grades, which, because of the clay, stalled many a good hill-climber, only two of the cars—the Gaeth and the Buick—finished the day with perfect scores. For all that it was a remarkable demonstration, as practically all of the penalizations came from killing engines on slippery roads. It was almost literally true that the cars which were not protected by tire chains were out of the game.

The entry list for this sealed bonnet contest proved somewhat disappointing. Local dealers and makers were pretty well cleaned out on 1907 cars and few of them were willing to risk the 1908 cars without more thorough preliminary tests, so only eight cars started in the contest for touring cars, while but one commercial vehicle, a Gaeth single-cylinder, contested in the commercial car class. There was to have been an event for electrics, but the three entrants were unable to get together on the numerous technical details of methods of figuring battery capacities and outputs, so at the last minute the event was called off, much to the disappointment of every one, because two of the local makers of electrics have been making some remarkable long distance road runs of late and some good showings were expected.

The cars were weighed in and sealed Monday evening and stored over night in the large new garage of the Metropolitan Motor Car Co. The start was made from in front of the club room at the Hollenden hotel at 7:25 o'clock. After the first car six others were sent off at intervals of about 5 minutes. C. D. Paxson with a Jackson four-cylinder did not put in an appearance until 8:59 o'clock, but he was permitted to start as he had performed the remarkable feat of driving all night in the rain from Pittsburg, arriving at about 5 a. m. Only some tire changes were made before the car started in the contest.

Much interest was centered in the 24-horsepower Mora. This is the Mora that participated in the New York sealed bonnet contest of 600 miles with a perfect score, then went by road to Chicago and competed in the Chicago sealed bonnet contest June 28, then back to New York, traveling for 6 weeks over the roads in that vicinity, then to Atlantic City, Philadelphia and Pittsburg to Cleveland for the present contest. It is claimed that this represents a total of 6,000 miles since the bonnet first was sealed or a total of 10,000 miles since the car went into commission. The three sets of seals on hood, coil, transmission box, rear axle and battery box remain intact, and the car has had no penalizations due to mechanical defects. In this afternoon's run the engine was stopped, due to the breaking of a tire chain which became entangled in the brake gear while plowing through deep mud. It is probable that under the rules for penalization in case of stopping the motor without notifying the observer of the intention of doing so, that this will result in a penalization of 25 points, but at this writing the matter has not been determined and the case has been appealed from the referee to the technical committee in charge of the contest.

The committee declined to give out allowances and time credits until the 3 days' contest has been completed, but it was announced that the four-cylinder Gaeth, driven by Paul Gaeth, and the four-cylinder Buick, driven by J. T. Turmball, went through with perfect scores. The Buick two-cylinder, driven by G. M. Bettes, broke a chain and did not get in until late. The two-cylinder Jackson, driven by Robert Burman, suffered three punctured tires and came in on flat tires late at night. The Cartercar, driven by Hall, was one of those which was not fitted with tire chains and it could not hold the road. After being ditched several times from this cause it broke a gasoline pipe. The White pilot car went over the road in perfect shape. But the confetti was scattered by wind and rain at a number of turns and two of the cars got off from the route and were late getting in on this account. The Stearns official car went out without tire chains. It was twice ditched but pulled through in good shape.

The Gaeth commercial vehicle, a single-cylinder 20-horsepower delivery wagon, made a remarkable showing, covering 170 miles in 9 hours. It is fitted with solid tires which cut in and slipped terribly on the clay hills, but it went through without a hitch just the same.

The cars left in a downpour which made observers scarce articles and resulted in a hasty skirmish for anything that would keep off rain. Instructions regarding the route were handed out as follows: The morning route—Leave club house going east on Superior avenue to East Ninth street, turn right on East Ninth street to Euclid avenue, turn left on Euclid avenue to East Fifty-fifth street, turn right on East Fifty-fifth street to Broadway. Turn left on Broadway. Follow confetti to Bedford, to Twinsburg, to Streetsboro, to Ravenna, 36.5 miles. Checking station No. 1 in front of Etna house. Straight ahead to Kent, turn right and follow confetti to Twin Lakes, to Streetsboro, to Aurora, to Solon, to Randall. Turn right to Warrensville. Straight ahead at Warrensville, and turn left on brick pavement to entrance of Shaker Heights boulevard. Follow confetti to Euclid avenue to East Ninth street, to Superior avenue, to club house, 80 miles. Checking station at finish of the half day's run. The running time of this route was figured so that it would not exceed the speed limit prescribed by the state law. The route from Cleveland to Ravenna was 36.5 miles; the running time was 2 hours 14 minutes and the scheduled average speed 16.6 miles per hour. The return trip by way of Aurora was 43.5 miles; running time 2 hours 46 minutes, and the average speed 15.8 miles an hour. The total time for the morning run was 5 hours and the mileage 80 miles. This schedule was closely followed by practically every car.

Afternoon run—Leave club house going east on Superior avenue, turn right on East Ninth street, turn left on Euclid avenue, continuing straight on Euclid avenue to Euclid village. At Euclid village turn right on Chardon road, up hill on Chardon road past first sharp turn. Continue on Chardon road, crossing three four-corners, turning left at fourth, 16.6 miles.

At the top of what is called Dugway hill, turn right towards Willoughby. Watch confetti for turn around street improvement, continuing into Willoughby village, turning right at Willoughby opposite the Cleveland Trust Co.'s branch and continuing straight to Mentor—stop 63—checking station No. 1, 26 miles. Turn left and at first fork keep right to end of road, turn left and follow confetti to a second turn left. Continue .2 of a mile and turn right. Continue straight until you reach church on right. Then turn right. Continue to iron bridge. Turn right on iron bridge, crossing second bridge. Keep straight ahead along side of the Shore line to Frissell's, to Nottingham. Turn at Nottingham to St. Clair avenue, to entrance of boulevard. Turn left on boulevard to Euclid avenue, to East Ninth street, to Superior avenue, to club house, 58 miles; checking station at finish of first day.

On this the outgoing run to Mentor covered 26 miles with a schedule of 1 hour 28 minutes and an average speed of 17.7 miles an hour, while the return run covered 32 miles with a schedule of 1 hour 47 minutes with an average speed of 18 miles an hour. The total for the afternoon was 58 miles with a schedule of 3 hours 15 minutes.

The names of cars, drivers and observers were as follows:

No.	Name	Cyl.	Driver
17	Buick	2	G. Bettes
18	Buick	4	F. Turmball
16	Mora	4	J. W. David
15	Gaeth	4	P. Gaeth
21	Cartercar	4	J. Carter
19	Jackson	4	R. Burman
22	Cartercar	4	A. W. Hall
20	Jackson	2	C. D. Paxson

Commercial vehicles—Gaeth delivery wagon, one cylinder; A. Blatt, driver.

Four Perfect Second Day

Cleveland, O., Sept. 11—Special telegram—It rained all night and part of the second day of the sealed bonnet contest. The roads were soft and very slippery and the cars were ditched many times. The Jackson dropped out because of tire troubles and a bent axle. Both the Buicks and the Gaeth made perfect scores today as did the Gaeth commercial car. The Cartercar, No. 22, had chain troubles and blew out a spark plug. It was the first bonnet opened. The second Cartercar had to take on water because the engine heated up and stopped. The Mora had a clean score but suffered four punctures, getting in an hour and a half late. Thursday's route will be to Sandusky, Clyde, Monroeville, Norwalk, Oberlin and Elyria and back to Cleveland, 156 miles. The American Motor Truck Co.'s heavy truck will be tested in road service tomorrow by the committee.

RECENT POPE RUMORS

Hartford, Conn., Sept. 9—The Pope situation continues to be the all-absorbing topic of conversation, not only with the fraternity, but in financial circles as well. Unconfirmed rumors have been numerous during the past week and all manner of excuses are made for the present trouble. It is claimed the Hartford plant has been doing a fine business, and the trouble seems to have been induced solely by the Toledo plant. Though the reports can not be confirmed it is said that the Pope-Hartford car will be made in the future at the Hagerstown plant, the Tribune being discontinued, and that the Toledo will be built at the Hartford shops. Creditors of the company have been notified to present their claims within 4 months.

READY FOR ECONOMY RUN

Chicago, Sept. 11—Twenty-four entries have been received for the second annual economy test of the Chicago Motor Club which will be run Friday over a 100-mile course to Valparaiso and return. On the list are two each of the Pierce-Arrow, Berliet, Apperson, Oldsmobile, Stevens-Duryea and Premier and one each of the Dragon, Kisselkar, Buick, Corbin, Maxwell, Silent Knight, Locomobile, Holsman, Diamond T., Haynes, Knox and Ford. The same handicap formula that was used last year—the weight of the car divided by the weight of the gasoline consumed—will be employed. A Ford six-cylinder touring car will act as pacemaker and maintain an average pace of 20 miles an hour. Anyone passing it will be disqualified. The cars will be parked the night before at the starting point, Garfield boulevard and State street, and the start will be made at 7 o'clock Friday morning. The Chicago Motor Club intends following this up with a test of speedometers during the Chicago show, it being the intention to have a special testing machine built for the test. The club also will give a big smoker during the show.

FIRST BLOOD FOR SENATOR

Philadelphia, Pa., Sept. 10—True to his word, State Senator James P. McNichol, of Pennsylvania, who had been separated from $13.30 for burning up the White Horse pike, appealed the case before Supreme Court Justice Trenchard at Camden on Monday, and had the satisfaction of recovering the money from Justice of the Peace Carver, of Elwood, who had fined him. The win, however, was on a technicality, there being a defect in the complaint upon which the arrest was made. Squire Carver was fighting mad at his turn-down, and at once submitted the facts of the case to Motor Vehicle Commissioner Smith, at Trenton. The latter has determined to uphold the squire, declaring that the evidence shows a plain fracture of the law. As a first move the Philadelphia political boss and his chauffeur, Charles Ruch, have been summoned to appear at Trenton Friday and show cause why their licenses should not be taken away from them. The evidence against the senator and his chauffeur is said to be very strong, and if they fail to appear at the hearing it is quite certain that their licenses will be revoked out of hand. The senator, however, promises to be on deck with a big legal outfit.

LATE NEW YORK GOSSIP

New York, Sept. 11—Special telegram—Sixteen entries have followed the announcement of the next 24-hour race at Morris park September 27 and 28, made up of two entries each of Matheson, Packard and Lozier cars and one each of Welch, Fiat, De Luxe, Allen-Kingston, Oldsmobile, Frayer-Miller, Simplex, Darracq and Mitchell. Walter Allen has cabled Paris for Duray to drive the de Dietrich car. Entries are to be limited to twenty cars. No armored or chained tires will be allowed except in case of rain. Much newspaper talk continues here of the proposed stock car race over the Vanderbilt course. The local trade wants to race, but it has been suggested that for safety that it be run on the Morris park course. Many Nassau county citizens want the race for the money it will bring, but strong opposition is expected by several influential property owners. Charles Shanks arrived here today with his transcontinental outfit and opened up a 3 days' demonstration and exploitation of the new Winton six-cylinder cars. The train will visit forty-four American cities.

STEARNS CAR USED BY OFFICIALS IN SEALED BONNET TEST

SHOW ALLOTMENTS ARE MADE

List of Exhibitors in Chicago and Grand Central Palace Affairs Indicates Lively Interest Is Being Displayed in the Events by the Manufacturers of Motor Cars

Chicago, Sept. 10—Samuel A. Miles, general manager of the N. A. A. M., and in charge of the Chicago show, today announced the space allotments for the big event which will be held in the Coliseum, First regiment and Seventh regiment armories in December. There are 250 names on the list at the present time in comparison with the 222 exhibitors of a year ago. Of this total seventy-eight are makers of pleasure cars, twelve of commercial cars and the rest sundries and accessories. Last year there were ninety-six different car manufacturers represented. In the coming exhibition there will be thirty-five car makers in the Coliseum proper, seven in the annex, twenty-nine in the First regiment armory and eight in the Coliseum basement. There are twelve commercial propositions for the show in the Seventh regiment armory. The sundries and accessories people are distributed as follows: One hundred and nineteen in the Coliseum gallery, nineteen in the Coliseum basement, sixteen in the gallery of the First regiment armory and six in the Seventh regiment armory. The list is as follows:

MOTOR CARS, COLISEUM MAIN FLOOR

A-1—Packard Motor Car Co.
A-2—Locomobile Co. of America
A-3—Wayne Automobile Co.
A-4—Electric Vehicle Co.
A-5—Knox Automobile Co.
B-1—Woods Motor Vehicle Co.
B-2—Reo Motor Car Co.
B-3—Studebaker Brothers Mfg. Co.
B-4—E. R. Thomas Motor Car Co.
B-5—F. B. Stearns Co.
C-1—Apperson Brothers Automobile Co.
C-2—Northern Motor Car Co.
C-3—Elmore Mfg. Co.
C-4—Olds Motor Works.
C-5—Lozier Motor Co.
D-1—Dayton Motor Car Co.
D-2—Pope Motor Car Co.
D-3—Pope Mfg. Co.
D-4—H. H. Franklin Mfg. Co.
D-5—Bartholomew Co.
E-1—Babcock Electric Carriage Co.
E-2—Premier Motor Mfg. Co.
E-3—Matheson Motor Car Co.
E-4—Maxwell-Briscoe Motor Co.
F-1—George N. Pierce Co.
F-2—White Co.
F-3—Stevens-Duryea Co.
F-4—Haynes Automobile Co.
G-1—Winton Motor Carriage Co.
G-2—Royal Motor Car Co.
H-1—Thomas B. Jeffery & Co.
H-2—National Motor Vehicle Co.
J-1—Waltham Mfg. Co.
K-1—Mitchell Motor Car Co.
L-1—Pungs-Finch Auto and Gas Engine Co.

ANNEX, FIRST FLOOR

M-1—Autocar Co.
N-1—Dragon Automobile Co.
O-1—Baker Motor Vehicle Co.
O-2—Cadillac Motor Car Co.
O-3—Cadillac Motor Car Co.
P-1—Deere-Clark Co.
Q-1—Welch Motor Car Co.
Q-2—Peerless Motor Car Co.
Q-3—Peerless Motor Car Co.
Q-4—Corbin Motor Vehicle Corp.
Q-5—Corbin Motor Vehicle Corp.

FIRST REGIMENT ARMORY

A-1—Buckeye Mfg. Co.
A-2—Columbus Buggy Co.
A-3—Knight & Kilbourne
A-4—American Locomotive Automobile Co.
B-1—Rauch & Lang Carriage Co.
B-2—Western Tool Works.
B-3—Aerocar Co.
B-4—Gearless Transmission Co.
C-1—Cleveland Motor Car Co.
C-2—Moon Motor Car Co.
C-3—Pierce Engine Co.
C-4—Tincher Motor Car Co.
D-1—Austin Automobile Co.
D-2—DeLuxe Motor Car Co.
D-3—Jackson Automobile Co.
D-4—American Motor Car Co.
E-1—W ½—Chicago Coach and Carriage Co.
E-1—E ½—Staver Carriage Co.
E-2—C. H. Blomstrom Motor Co.
E-3—Dolson Automobile Co.
E-4—Acme Motor Car Co.
E-5—Monarch Motor Car Co.
E-6—Moline Automobile Co.
F-2—Nordyke & Marmon Co.
G-1—Holsman Automobile Co.
G-2—Wayne Works
G-3—Rainier Co.
G-4—Rainier Co.
G-5—Kissel Motor Car Co.
G-6—Smith Automobile Co.

COLISEUM BASEMENT

15, 16—Schacht Mfg. Co.
17 to 20—Reliable Dayton Motor Car Co.
23 to 25—Aurora Motor Works.
29, 30—Pullman Motor Car Co.
31 to 33—Auburn Automobile Co.
34—Hatfield Motor Vehicle Co.
36 to 40—Cornish-Friedburg Motor Car Co.
41 to 43—C. V. I. Motor Co.

ACCESSORIES, COLISEUM BASEMENT

1—K-W Ignition Co.
2—C. A. Shaler Co.
3—Norton Co.
4—Empire Automobile Tire Co.
5—Chicago School of Motoring
6—Randall-Faichney Co.
7—Michelin Tire Co.
8—T. Alton Bemis
9—American Aluminum Coating Co.
10—Thomas Prosser & Son
21 to 22—Roger B. McMullen
24 to 26—Manhattan Screw and Stamping Co.
45—Jeffery-DeWitt Co.
46—Warner Clutch Co.
47—Triple Action Spring Co.
48—Duplex Coil Co.
49, 50—Longdin-Brugger Co.
51—Pfanstiehl Electrical Laboratory
52—Vivax Storage Battery Co.

COLISEUM GALLERY

1—Kinsey Mfg. Co.
2 to 4—Sprague Umbrella Co.
5—Never-Miss Spark Plug Co.
6—Adam Cook's Sons
7—Indestructible Steel Wheel Co.
8—Imperial Brass Co.
9—Republic Rubber Co.
10—Motor Car Specialty Co.
11—Valentine & Co.
12—Electric Storage Battery Co.
13—McCord & Co.
14—Auto Improvement Co.
15—Wray Pump and Register Co.
16, 17—Aurora Automatic Mchy. Co.
18—Pennsylvania Rubber Co.
19—Hartford Suspension Co.
20—Cramp & Sons Co.
21—R. H. Smith Mfg. Co.
22—Chicago Battery Co.
23—Whitney Mfg. Co.
24—Motsinger Device Mfg. Co.
25—Wheeler & Schebler
26, 27—Morgan & Wright
28—R. E. Dietz Co.
29—Dayton Electrical Mfg. Co.
30, 31—Hartford Rubber Works Co.
32, 33—Timken Roller Bearing Axle Co.
34, 35—Diamond Rubber Co.
36—Brown-Lipe Gear Co.
37—Spicer Universal Joint Mfg. Co.
38, 39—G & J Tire Co.
40, 41—Badger Brass Mfg. Co.
42—Veeder Mfg. Co.
43, 44—Gray & Davis
45—National Carbon Co.
46—Rose Mfg. Co.
47, 48—B. F. Goodrich Co.
49—C. F. Splitdorf
50—Hyatt Roller Bearing Co.
51—Shelby Steel Tube Co.
52—Long Mfg. Co.
53, 54—Fisk Rubber Co.
55—Diamond Chain and Mfg. Co.
56—Joseph W. Jones.
57—Warner Gear Co.
59, 60—Goodyear Tire and Rubber Co.
61—Baldwin Chain and Mfg. Co.
62—Pantasote Co.
63—Warner Instrument Co.
64—Swinehart Clincher Tire and Rubber Co.
65—N. Y. and N. J. Lubricants Co.
66—Remy Electric Co.
67, 68—Firestone Tire and Rubber Co.
70—Cook's Standard Tool Co.
71—Oliver Mfg. Co.
72, 73—S. F. Bowser & Co.
74—Edmunds and Jones Mfg. Co.
75—Byrne-Kingston & Co.
76—Kokomo Electric Co.
77—Weed Chain Tire Grip Co.
78—Hancock Mfg. Co.
79—Leather Tire Goods Co.
80—Hotchkin Mfg. Co.
81, 82—Auto Accessories Mfg. Co.
83—Duff Mfg. Co.
84—Western Malleable Steel Co.
85—Midgley Mfg. Co.
86—R. E. Hardy Co.
87—Joseph Dixon Crucible Co.
88—Stewart & Clark Mfg. Co.
89—Atwater-Kent Mfg. Co.
90, 91—Ajax-Grieb Rubber Co.
92—Stackpole Battery Co.
93—Ross Gear and Tool Co.
94—J. H. Sager Co.
95—Hoffecker Co.
96—C. Cowles & Co.
98—Auto Pump Co.
99—Gray-Hawley Mfg. Co.
100—Lipman Mfg. Co.
101—National Battery Co.
102, 103—Corcoran Lamp Co.
104—Gemmer Mfg. Co.
105—Briscoe Mfg. Co.
106—Heinze Electric Co.
107—W. G. Robinson & Son Co.
108—Oliver Instrument Co.
109—Whiteley Steel Co.
110—Atwood Mfg. Co.
111—Standard Roller Bearing Co.
112—Prest-O-Lite Co.
114—Conn. Telephone and Electric Co.
115—Diezemann Shock Absorber Co.
116—Avery Portable Lighting Co.
118—Kilgore Mfg. Co.
119—Uncas Specialty Co.
120—Witherbee Igniter Co.
121—Muncie Auto Parts Co.
122, 123—Hendee Mfg. Co.
124—Harley-Davidson Motor Co.
125—Armac Motor Co.
127—Fowler-Manson-Sherman Cycle Mfg. Co.
128, 129—Pope Mfg. Co.
130, 131—Consolidated Mfg. Co.
132, 133—Merkel Motor Co.
134—L. C. Chase & Co.
136—American Electrical Novelty and Mfg. Co.
137—Vesta Accumulator Co.
138—Igniter Appliance Co.
139, 140—Rands Mfg. Co.
141—Hornbecker Motor Mfg. Co.
142—Gabriel Horn Mfg. Co.
143—C. T. Ham Mfg. Co.
144—Holly Brothers & Co.
145—National Oil Pump and Tire Co.
146—Limousine Carriage Mfg. Co.
147—A. R. Mosler & Co.
148—Sherwin-Williams Co.

FIRST REGIMENT ARMORY GALLERY

1—Standard Lamp and Mfg. Co.
2—Motor Way
3, 4—Continental Caoutchouc Co.
5 to 8—Eugene Arnstein
10—Acetyvone Co.
12—Ventilated Cushion and Spring Co.
15, 16—Franco-American Auto and Supply Co.
17—Cycle Auto and Trade Journal
18—McKanna Mfg. Co.
19—Standard Varnish Works
20—Motz Clincher Tire and Rubber Co.
21—Morrison, McIntosh & Co.
22—Horseless Age
24-a—Motor Age
25 to 28—Excelsior Supply Co.
29—Class Journal Co.

COMMERCIAL VEHICLES

Section A—H. H. Franklin Mfg. Co.
Section B—Buckeye Mfg. Co.; Rapid Motor Vehicle Co.; White Co.
Section C—General Vehicle Co.; Logan Construction Co.; Reliance Motor Car Co.
Section D—Studebaker Brothers Mfg. Co..
Section E—Pope Motor Car Co.
Section F—Mitchell Motor Car Co.; Couple Gear Freight Wheel Co.
Section H—A. D. Meiselbach Motor Wagon Co.

ACCESSORIES

Section J—Hartford Rubber Works Co.; Firestone Tire and Rubber Co.
Section L—Diamond Rubber Co.
Section M—Indestructible Steel Wheel Co.
Section N—Timken Roller Bearing Axle Co.; Hartford Auto Parts Co.

WILL REMODEL PALACE

New York, Sept. 7—Out of the 65,000 square feet of space available for exhibition purposes at the Grand Central Palace show, New York, practically all but a few hundred feet, was allotted at the drawing which took place. Owing to the demand for space the managers of the show announce they have decided to practically remodel the big exhibition hall, and that instead of dividing the exhibits on three floors, as formerly, that there would be a main exhibition hall and two galleries. This is made possible by removing the cafe and restaurant from the second floor to the upper gallery, and the tearing out of all the partitions which hitherto have separted the upper galleries from the main floor. A wide 10-foot aisle will be cut through the first gallery to a central stairway, which connects with the upper gallery. This, with the tearing down of the partitions, will give the visitors an unobstructed view of the whole exhibition from the main floor or either of the two galleries. Roughly speaking the space is divided as follows: American Motor Car Manufacturers' Association, 23,641 feet;

Motor and Accessory Manufacturers' Association, 16,087; commercial vehicles, 4,644; motor cycles, 636; general allotment main floor, 7,777; general allotment first gallery, 2,494; general allotment accessories, second gallery, 10,000; total, 65,279. The list of exhibitors is as follows:

MAIN FLOOR EXHIBITORS

Motor Car Co.
Abendroth & Root Mfg. Co.
Gaeth Automobile Works
Knox Motor Truck Co.
Dragon Automobile Co.
York Motor Car Co.
Dolson Automobile Co.
Overland Automobile Co.
Kingston Motor Car Co.
De Luxe Motor Car Co.
Pennsylvania Auto Motor Co.
Austin Automobile Co.
American Motor Car Co.
Evansville Automobile Co.
Simplex Motor Car Co.
Bartholomew Co.
St. Louis Car Co.
B. L. M. Motor Car and Equipment Co.
Marion Motor Car Co.
Welch Motor Car Co.
Imperial Motor Car Co.
Crawford Automobile Co.
Acme Motor Car Co.
Wayne Automobile Co.
Maxwell-Briscoe Motor Co.
Mitchell Motor Co.
Dayton Motor Car Co.
Ford Motor Car Co.
Reo Motor Car Co.
Premier Motor Mfg. Co.
National Motor Vehicle Co.
Moline Automobile Co.
Nordyke and Marmon Co.
Mora Motor Car Co.
Jackson Automobile Co.
Dorris Motor Car Co.
Gearless Transmission Co.
Chadwick Engineering Works
Moon Motor Car Co.
Buckeye Mfg. Co.
Lane Motor Vehicle Co.
Kissel Motor Car Co.
J. M. Quinby & Co.
Napier Motor Co. of America
Smith Automobile Co.
Klink Motor Car Mfg. Co.
Garford Motor Car Co. of N. Y.
Cleveland Motor Car Co.
Rainier Motor Car Co.
C. H. Blomstrom Motor Co.
Moore Automobile Co.
Oscar Lear Automobile Co.
Motor Age
Travelers Ins. Co.
Automobile Blue Book
Automobile Topics
Horseless Age
Nat. Surety Co.
Motor Print
Motor

GALLERY EXHIBITORS

Colt Runabout Co.
Forest City Motor Car Co.
Huntington Automobile Co.
Holsman Automobile Co.
Schacht Mfg. Co.
Wayne Works
Cameron Car Co.
J. M. Ellsworth
Hatfield Motor Vehicle C.
Reliable Dayton Motor Car Co.
Charles E. Miller
Shawmut Motor Co.
Light Mfg. and Foundry Co.
Ovington Motor Co.
Reading Standard Co.
Lansden Co.
Miller Motor Car Co.
Mitchell Motor Car Co.
Rapid Motor Vehicle Co.
Logan Construction Co.
Reliance Motor Car Co.
Mack Brothers Motor Car Co.
Newmastic Tire Co.

THIRD FLOOR EXHIBITORS

C. J. Downing
Brownell-Trebert Co.
Martin-Evans Co.
William Wooster
K-W Ignition Co.
Cycle and Automobile Trade Journal
Motz Clincher Tire and Rubber Tire Co.
Comstock Shock-Absorber Co.
Pneu Electric Co.
Thomas Prosser & Son
Ventilated Cushion and Spring Co.
N. Y. School of Automobile Engineers
Central Automobile Top Co.
Charles L. Klauder
Crown Battery Co.
Traver Blowout Patch Co.
Allen Automobile Specialty Co.
W. P. Miller's Sons
F. R. V. Automobile Parts Co.
Hicks Speed Indicator Co.
Roger B. McMullen
Lavalette & Co.
Continental Caoutchouc Co.
Manhattan Electrical Supply Co.
Pierson Motor Supply Co.
Standard Brake Co.
Acetyvone Co.
Ampere Mfg. Co.
Hill Mfg. Co.
C. A. Shaler Co.
Randall-Faichney Co.
Clover Mfg. Co.
Norton Co.
Commonwealth Rubber Co.
Nathan Novelty Mfg. Co.
Patterson-Gottfried & Hunter
Automobile Supply Mfg. Co.
I. G. Johnson & Co.
Perfection Spring Co.
E. J. Kaltenbach
Presto Detachable Rim Co.
Twombly Goggle Co.
Comptoir 'de Innovations Pour Automobiles
St. John Rubber Tire Co.
Leon Mann Co.
Automobile Appliance Co.
J. S. Bretz Co.
Jeffery-DeWitt Co.
Merchant & Evans Co.
Troy Carriage Sun Shade Co.
Supplementary Spiral Spring Co.
Scandinavian Fur & Leather Co.
Post & Lester Co.
New Departure Mfg. Co.
Turner Brass Works
N. Y. Sporting Goods Co.
Motor Vehicle Publishing Co.
Mort Howe

Selden's Version

Broadway and Forty-ninth street, New York, was the scene of unusual activity today when another demonstration of the original Selden gas buggy was given. The infringers of the patent have for some time been skeptical as to the practicability of the car and its ability to run either on flame or electrical spark ignition. The case, which has been in the courts for many years, has attracted widespread attention in the motor industry, and as a decision is expected very shortly there is a renewed interest in every demonstration. The infringers of the patent, against whom suits have been brought for infringement, base their defense on the claim that the car built by Selden in 1877 was inoperative and impracticable for road use in any form and that the car could not be run by its own power. Several demonstrations to prove that it was practicable have been given, especially the one at the Guttenberg race track several weeks ago before the attorneys and experts for the defendants and complainants. At Guttenberg the car made a creditable showing, proving that it was operative to a degree which was far beyond the expectations of many of the observers. As that demonstration was made in private, many people believed the car had not proved the claims of the owners of the patent. Today's demonstration again proved that the cold car, with its original cylinders, pistons, etc., was capable of doing what the inventor expected it would. It was first run on flame ignition up and down the street and later run on electrical spark to show its versatility. Up and down the street, through a labyrinth of modern motor cars, trucks and interested spectators the first motor car of a compression type ever built, was run. To show its operativeness, the car was reversed, turned around and backed up several times, much to the surprise and humiliation of those who have belittled the work of an inventor who had been able to make and operate a car 15 years before anyone else and whose original invention is operative 30 years after.

Editor's Note—The stories under the captions "Selden's Version" and "Ford's Version" are from the publicity departments of the Selden and anti-Selden sides of the patent case. They are printed just as received and the dear reader may take his choice.

Ford's Version

Henry Ford and his followers scored another victory yesterday in the so-called Selden patent suit, when his Lenoir car, built from patents issued in 1865, traveled about four times as far and four times as fast as what has been termed the Selden machine. The contest was held on Forty-ninth street, between Broadway and Eighth avenue, in the presence of about 100 spectators, including counsel and experts on both sides of the 4-year-old suit, which is claimed to involve the rights of a biggest proportion of the American manufacturers to make gasoline cars. Messrs. Cunz, Betts and Gibbs represented the Selden side, with Messrs. Parker, Murray, Duryea and Professor Carpenter representig the Ford. It was a case of 1865 beating 1877 without the slightest trouble, even when the Selden car ran, which generally was only for a few minutes at a time. In 4½ minutes it stopped three times and in some cases would not run more than half a minute, while its longest trial was 4¾ minutes and its greatest speed 6¼ miles an hour. Once it ran the length of the Forty-ninth street block, from Broadway to Eighth avenue, but was easily passed by the Lenoir 1865. The Selden test was claimed to be under flame ignition, in accordance with the patent papers. It was not expected that the Lenoir car would be on hand for the comparative tests, but Mr. Parker had brought on the driver from the Ford factory in Detroit. the Lenoir, which is claimed to antedate the Selden engine, ran with two people from the garage to Ninth avenue and then to Sixth avenue, crossing ten car tracks. In accordance with the ruling of the trial, its spark was fastened in one position, so there could be no advancing of the spark. A request that the Selden car cross the tracks was refused. Then the Ford people offered to race the Selden car a 50-mile race, giving it a 45-mile start over the Lenoir. This, too, was declined. It was noticed the Selden car started only when facing down the street grade, and was always pushed around to that position.

FIVE DAYS OF RACING

Chief Honors at Wildwood Divided Among Stanley, Packard and the Buick

Wildwood-by-the-Sea, N. J., Sept. 7—One of the most pretentious seashore tournaments ever pulled off in this country came to a close yesterday afternoon with a series of races over the Central avenue boulevard. When the energetic committee of the local club first announced a series of races to last throughout the week the pessimistic wiseacres shook their heads sadly and predicted a frost. But the weather was delightful, and the crowds held on, and are still here—to stay till at least Monday next.

True, additional interest might have been given the races had there been bigger fields and a greater variety of cars present, but there were always a sufficient number of starters to insure a good contest, the average time was much better than at the July 4 meet, the course record was broken and altogether the racing feature was most enjoyable. The regularity run on Monday might have had a more representative entry list, but the victory of Joseph W. Parkin, Jr.'s 30-horsepower Packard over a field of sixteen cars, including no fewer than ten Stanley steamers, was most creditable. In this event H. B. Stollman's 30-horsepower Pennsylvania captured second prize, and the Philadelphia Stanley Steamers' Club won the Colsey cup for having the largest representation of any one car.

Harry Levey's 120-horsepower Wolseley car, from which so much was expected, sulked all week, and could not be properly tuned up to show its best paces. Notwithstanding this disappointment, the attack on the course record of 44 seconds, made by Montague Roberts in his Thomas Flyer last Fourth of July, was kept up by the other flyers all week until on Thursday afternoon Bert Holland in a 25-horsepower Stanley steamer clipped an even second off the Thomas' figures and incidentally won a gold watch for his performance, besides the cup emblematic of the feat. Holland made miles under 50 seconds in most of his trials and in the competition events as well, and when he finally sped across the line in 43 seconds the news spread like wildfire all along the course and his return to the starting point was an ovation.

The honors of the long meet went to the Stanley, that car having crossed the tape first in thirteen of the thirty events decided during the 4 days. D. Walter Harper in the 25 and 20 and Bert Holland in the 25 and 10-horsepower car between them captured the Henry D. Moore, Aldine, Hotel Keepers' Association, Board of Trade, Edgeton, Strand, Dayton-Fenwick, Auctioneers', Surrogates', Wildwood Council, J. W. Robbins and Dr. Harrigan cups and the handsome Colonial trophy.

The Packard Thirty was a close contender with nine firsts, including the Florence, Legislative, Sparklin, Wildwood Canal, Cashiers' and Senator Hand cups, the Baker Brothers and Postoffice trophies and a special medal. Joseph W. Parkin, Jr., captured eight of these events, Samuel H. Collom being at the wheel when the Sparklin cup was annexed.

Eddie Wilkie drove the Buick 22 to the front in six races, and won the Seacrest, Keecher-Kay Realty, Wheelwright, Surveyors' and Wildwood Manor cups and a special medal. Willie Haupt in the Chadwick took home the Electric and Bright cups, while John A. Bunn, with his 24-horsepower Moline, won the Physicians' cup, besides a special trophy and a medal.

That this town is motor crazy may be surmised from the fact that its officials willingly assented to the practical closure of its principal avenue for 5 days straight, and shunted mere business traffic to the parallel highways, while the speed merchants burned off the $1,200 top dressing which the Wildwood highway officials had put on to make things easy for them.

BAY STATERS CELEBRATE

Newcastle, N. H., Sept. 9—For 3 days a number of motorists have been at the Wentworth hotel here enjoying themselves in a capital manner. The object of the gathering was to have a meeting of the Massachusetts State A. A., a body composed of members of the different clubs in the Bay State. Some of the motorists reached here Friday, but the majority landed at the hotel on Saturday. That day was spent in having a general good time and in the evening there was a banquet at which a representative gathering of motor men was present. There was the usual lot of speeches on all sorts of topics. The real speech of the evening was delivered by Samuel L. Powers, ex-congressman from Massachusetts. He spoke on motor legislation and gave a lot of good advice on how to go about getting laws passed that would be of benefit to the motor industry. Sunday was passed in touring about the shores and on Monday there were a number of gymhkana sports pulled off that tested the skill of the drivers of the cars. Tuesday morning the majority of the motorists left for home.

LONG TRIP FOR BERLIET

Providence, R. I., Sept. 9—The new six-cylinder Berliet is now well on its way traveling about the country on a tour that will cover 6,000 miles before it is through and which will embrace a lot of western cities, among them Chicago. The car was christened at the factory here last week, when a lot of newspaper men from New York came and inspected it and had a trip about the suburbs after going through the factory. Then it was ready for its test. Last Tuesday in a driving rainstorm it started for Boston.

A MILE IN 52 SECONDS

Christie Puts Up Fine Exhibition Performance in State Fair Meet at Minneapolis

Minneapolis, Minn., Sept. 9—In the races held on the Hamline track Saturday in connection with the Minnesota state fair, Walter Christie went around the mile circle in 52 seconds, equaling the world's record and breaking the Minnesota record of a mile in 56⅗ seconds made by Barney Oldfield. The races were held under the auspices of the Minnesota State Automobile Association. The track was in splendid condition. A light rain during the night prevented the much-dreaded clouds of dust present during most races. Christie drove his own 135-horsepower machine.

All the cars entered were classed according to their piston area—the square of the bore of the cylinder multiplied by the number of cylinders. Class A was for cars with a piston area under 50; class B for cars with piston area of 50 and under 70; class C for cars with piston area of 70 and under 100, and class D for cars of a piston area of 100 and over.

The big event of the meet was Christie's effort. His driving on the first corner was a wonder. He took the chance of a skid and carried the pole right under his arm, going to the first quarter in 13¼ seconds, repeating the same daring performance at the second turn, sweeping by the half-mile post in 26 seconds. Then came a bad stretch of track and 39 seconds elapsed before he reached the three-quarters mark and then struck a tremendous burst of speed which carried him by the judges' stand with a record of 52 seconds.

Next in point of novelty and interest was the drivers' race. The machines were lined up and the drivers instructed to go around the track at the rate of 15 miles an hour. They were sent off at 1-minute intervals. No one was permitted to carry a watch or speedometer. The result was close. Harry Pence, in a Stevens-Duryea, showed the best judgment of speed. He finished within 2 seconds of a perfect score, 4 minutes. Nine cars in all took part in this contest and it was a tribute to the drivers' judgment of pace that none of them was very far off the mark set by the officials.

Fast time was made in almost all the events, the liveliest being the 5-mile contest for professionals. The real contestants in this race were Christie and G. V. Rogers. Rogers drove a 35-horsepower Mitchell and while defeated made a good showing. Christie won the 5 miles in 6 minutes 6 seconds. Rogers did 6 minutes 9 seconds.

There was the usual number of engine deaths and minor mishaps but not a board was splintered on the fence and neither

drivers nor spectators were injured. Twenty-five thousand persons saw the races. C. E. Broad drove an exhibition mile in a Stanley steamer in 56⅘ seconds. Summary of the races:

Class B, 3 miles—Fred Harn, 24-horsepower Mason, won; W. E. Wheeler, 15-horsepower Ford, second; Roy Philo, 15-horsepower Ford, third: George Dorr, 15-horsepower Ford, fourth. Time, 4:32 2-5.

Class D, 5 miles—A. H. Patterson, 40-horsepower Pierce, won; J. C. Littlewood, 30-60-horsepower Stearns, second; A. C. Bennett, 40-horsepower Winton, third. Time, 6:14.

Class C, 5 miles—G. V. Rogers, 35-horsepower Mitchell, won; G. C. Hilgers, 40-horsepower Franklin, second; W. C. Rice, 30-horsepower Kisselkar, third. Time, 6:21 3-5.

Motor cycle race, 6 miles—R. W. Yates, 3-horsepower Davidson, won; Walter Taylor, 2¼-horsepower Indian, second; O. N. Leykman, 3-horsepower Davidson, third. Time, 6:19 2-5.

Class B, 3 miles—Fred Harn, 24-horsepower Mason, won; H. J. Mich, 20-horsepower Locomobile, second. Time, 4:19 1-5.

Twin City club championship, 5 miles—A. H. Patterson, 40-horsepower Pierce, won; W. R. Rice, 50-horsepower Haynes, second. Time, 6:08¾.

Professional, 5 miles—Walter Christie, 135-horsepower Christie, won; G. V. Rogers, 40-horsepower Mitchell, second. Time, 6:06.

Drivers' speed judging contest, 1 mile, to drive at the rate of 15 miles per hour, perfect score, 4 minutes—H. E. Pence, 50-horsepower Stevens-Duryea, won; time, 4:02; P. R. Brooks, 30-horsepower Oldsmobile, second; time, 4:04; L. H. Fawkes, 35-horsepower Holsman, third; time, 3:55. Nine competed.

Class A, 3 miles—H. O. Holby, 14-horsepower Maxwell, won; W. R. Rice, 18-horsepower Overland, second. Time, 5:15.

Twin City dealers' race, touring cars, 10 miles, cut from 25 miles—George Dorr, 40-horsepower Ford, won; H. J. Mich, 40-horsepower Franklin, second; A. C. Bennett, 40-horsepower Winton, third. Time, 12:58.

Twin City dealers' race, 10 miles, touring cars—Fred Harn, 24-horsepower Mason, won; H. J. Mich, 20-horsepower Locomobile, second. Time, 15:12.

MATHESON WINS MEDAL

New York, Sept. 9—The members of the Wilkes-Barre Automobile Club who acted as judges and referee of the last hill-climbing contest up Giant Despair, have announced the results in the competition for the gold medal which was to be awarded to the car drawing the greatest weight per horsepower per second. Over half of the two score participants in all the classes decided in the hill-climb were entered in this novel contest and the great amount of figuring necessary to reach the results accounts for the delay in announcing the winners. The weight drawn by each contestant per horsepower per second was arrived at as follows: The cars were weighed and their horsepower determined by the formula recently adopted by the Association of Licensed Automobile Manufacturers. With these figures the weight drawn per horsepower was determined. Then by taking the fastest time made by each contestant in the climb the weight drawn per horsepower per second was attained. The following gives the results of the first six cars: Matheson, Ross Anderson, .5335 horsepower pounds per second; Fiat, Kessler, .4984; Matheson, Charles Ward, .4118; Knox, Bourque, .4063; Thomas Flyer, H. Roberts, .3649; Maxwell, Price, .3268. The announcement of the results is signed by P. A. Deixell, W. L. Raeder and B. R. Jones as judges and D. C. Roberts as referee, all of whom are private owners and members of the Wilkes-Barre Automobile Club.

ONE MORE FATALITY

Ray Reinertsen Meets Death in Pittsburg Race—Walter Christie Severely Injured

Pittsburg, Pa., Sept. 10—Death and disaster marred the fourth annual motor races at Brunots island yesterday and today. Nearly 10,000 people gathered yesterday to watch the speed-making. Instead they were horrified to see one of the racers, Rex Reinertsen, president of the Auto Repair Co. of Allegheny, literally smashed to bits under a Haynes car at the first turn in the stretch, not 100 yards from the grand stand. He was pulled out from beneath the wreck with practically every bone in his body broken and died soon after reaching the hospital.

Hardly had the crowd recovered from this spectacle when Walter Christie of River Edge, N. J., was hurled 50 feet through the air when his racer shot into the wrecked Haynes. Christie was carried off the field on a plank and hurried to the hospital, where it was found he had a broken arm and injuries about the hips and body. He will recover. A third victim who was also carried off the track and taken to the hospital was Clair Baston, mechanic for Reinertsen, whose thigh was badly twisted, head cut and bruised and otherwise injured. His condition is not serious, it is said.

Reinertsen's accident occurred in the big 50-mile endurance derby which had eleven starters. They were just entering the eighth mile, and as Reinertsen started to take the first turn on the track the front tire blew up and the car skidded. At the sharp bend in the track it turned turtle, headed back for the grand stand and buried Reinertsen and his mechanic under the debris.

Christie was on the track to make a mile against the Brunots island record. His car was going at the rate of 100 miles an hour when he reached the first turn after a trial round. Suddenly it skidded, swirled and dashed into the pile of wreckage on the turn.

The races started well. Reinertsen had captured third place in the 3-mile race for cars costing $5,000 or less with his Haynes. After Reinertsen and Baston had been taken from the track Barney Oldfield started to break his own record of a mile in 58 seconds which he made 2 years ago on this track. At that time he was dashed against a fence, causing injuries that kept him in the hospital for 2 weeks. Whether because of this or the horrible occurrences that preceded his trial yesterday he lost his nerve, and after making a trial mile in 1 minute 10 seconds he went off the track. First day's summaries:

First event, 3 miles for fully equipped touring cars costing $1,000 or less—E. L. Seeley, Reo, and M. McLaughlin, driver, Jackson, competed. The race was not finished.

Second event, 5 miles, for fully equipped touring cars costing $3,000 or less—R. J. Hustead, Pope-Hartford, won; E. C. Bald, Columbia, second; C. H. Bromler, Pope-Hartford, third. Time, 6:04.

Third event, 3 miles, for fully equipped touring cars costing $5,000 or less—T. F. Dunn, Stevens-Duryea, won; C. A. Collier, Stevens-Duryea, second; Rex Reinertsen, Haynes, third. Time, 3:48.

Fourth event, exhibition by Ollie Savin in the Red Devil, 2 miles—Time, 1:04, 1:03 3-5.

Fifth event, novelty race, 5 miles—T. F. Dunn, Stevens-Duryea, won; R. J. Hustead, Pope-Hartford, second; E. C. Bald, Columbia, third. Time, 7:01.

Sixth event, 3 miles, free-for-all handicap—T. F. Dunn, Stevens-Duryea, won; C. A. Collier, Stevens-Duryea, second; E. C. Bald, Columbia, third.

The excitement of the first day's races and the fact that the wrecked cars were still lying near the track drew an enormous crowd to the second day's meet this afternoon. Only the first race was run, however, as the track was so wet that it was decided to postpone the other events until Wednesday.

The first race was a 2 mile handicap and was won by T. D. Nevin's Darracq car driven by William McCullough, who made the distance in 3 minutes 46⅖ seconds. C. A. Collier came in second with a Stevens-Duryea. B. Huston with a Pope-Tribune won third place and E. Bald in a Columbia fourth.

TALKING STOCK CAR RACE

New York, Aug. 10—Thomas Moore, former press agent for Wyckoff, Church & Partridge, encouraged by his success in securing from the city the permission to run the recent hill-climb up Fort George hill, has now undertaken a more ambitious project. It is no less a scheme than the promotion of the much-talked-of race for stock car chassis, for which a committee of makers submitted rules to the American Automobile Association. He has approached the Nassau county supervisors for permission for his Metropolitan Automobile Association, a coterie of friends that was back of the Fort George climb, to put through during the week before the shows the race, or rather the series of races contemplated originally, declaring that his club would meet all expenses, would guarantee the county against damages, and provide 500 Pinkertons to police the course. The Nassau county supervisors are said to have asked for further details. It is not believed that permission can be secured or that Mr. Moore and his associates will succeed in promoting the event. Suggestions have been made that the desired stock car chassis races be run over the Morris Park motordrome course. As a matter of fact at a dinner given last night by President Robin to Alfred Reeves, Fred Wagner, Carlton R. Mabley, Walter C. Allen and George Robertson the question of a long distance race of this character was seriously discussed. Incidentally it was suggested that the three tracks comprising the course could make it possible to supply average road conditions by furnishing sandy stretches with even an occasional hill to be climbed and rough going to be traversed in the infield. It is now planned, by the way, to run the next 24-hour race on Friday and Saturday, September 27 and 28.

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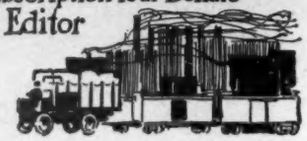

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BRITISHERS AWAKENING

BRITISH motor car manufacturers have been warned that unless they alter their notions as to points of manufacture they may see their selling field so occupied by Americans as to almost if not entirely shut them out. About so often they are warned by their own motoring papers to be on their guard, the following, from Motoring Illustrated, being a sample: "We have often flown a warning signal to British makers as to the danger of shelving the question of standardization. We hear on good authority that makers of motors and components in America are working to bring about standardization of the more vital components of motor cars, such as motor transmissions, clutches and universal joints. Once American makers come to an agreement, it is almost good-bye to the British motor manufactory. The Swiss, and especially the American, machine-made watch, was the ruin of the splendid hand-made English lever, and when America gets down to business and standardizes motor parts, she will be able to sell a really first-class motor car in London at prices which will leave no margin of profit to a car not built on the same system. The cheap American car assembled from standardized parts made by factories, each one specially fitted up to make one particular part, will not be as good as a hand-made car, but it will suit the purpose of the great majority in the same way that a Waltham watch has replaced the English lever." Inasmuch as the most of the motor car manufacturing establishments of Great Britain have sprung from bicycle making plants, it would seem reasonable to suppose that the makers would take some warning from the lessons that were set before them a decade ago and that they would avoid the mistakes that were then made. Up to the present time the American makers of motor cars have paid practically no attention to foreign markets, having had all they could do to supply the home demand. There will come a time when the American will have to seek an outlet for his overproduced stock and naturally he will look to Great Britain and the continent first. If the British press believes there is danger to its home makers now, what will it think when the American market has been supplied and the American maker starts out to find a place to sell the goods he cannot place at home? It is true the American maker will soon be in the British field; as a matter of fact, he is there to small extent now and his presence is being felt. Exception may well be taken to the statement concerning assembled cars and hand-made cars. The same cry was made about American-made bicycles—which were later on admitted to be superior to any made, regardless of the fact that they were not entirely hand-made. There are good arguments in favor of hand-made machinery and there are arguments against it, particularly when judged from the selling point of view, but they will have little bearing on the case.

SHOW IS AN INDICATION

TRADE conditions may well be judged from the show point of view—and the lists of exhibitors of the next Chicago and New York shows are such as to indicate that there is no material change in the situation as it existed nearly a year ago. It is true a few concerns that were among the exhibitors at the last shows will not grace the field this fall, but on the other hand it is also true that there are several new concerns and a greater number all told. The increase in the number of makers has been small, but most of the established motor car manufacturers have seen sufficient prosperity to warrant them in making preparations to increase their outputs to some extent. A careful canvass of the field indicates that where facilities have been increased or are contemplated the makers have not only been justified in so doing, but the move has been made only after a careful review of the trade situation from every point of view that could well be considered as having a bearing on the situation. Even considering the flurry that has been apparent during the past few weeks, the most intense pessimist must admit that either the makers know where they stand or are being frightfully fooled or are putting up a strong bluff when they are going ahead on the plan of increased outputs and bigger selling campaigns than they have ever known. It will be found that when the show season is on in New York and Chicago, followed by the circuit of smaller shows in the principal cities of the country, the enthusiasm that is usually generated over the motor car has in no manner been dwarfed and that when delivery time comes there will be the same rush as has been seen in retail circles heretofore.

ACCIDENTS—MORE ACCIDENTS

MOTOR AGE is filled with a sincere and deep feeling of regret over the fatal and serious accidents that have occurred as a result of motor car track racing, and perhaps more so because of the fact that its friends and acquaintances have been numbered among the victims. Nobody has yet raised the point that Motor Age has been wrong in decrying motor car racing on tracks of a mile or under; in fact, its position has been supported by all fair-minded students of the game. Strange as it may seem even some of the strongest supporters of the opinion voiced by Motor Age have permitted their enthusiasm to obtain the better of them and to let themselves be led into the fearful but apparently fascinating sport. Denver recorded its tale of woe a week ago; now Pittsburg comes to the front. The sensational daily press gulps down this tragic news with the satisfaction of a glutton and the motorphobe nibbles it with intense delight and a series of grins. For the sake of a little empty honor, a little grand stand applause, possibly a smile or two and occasionally a trinket in the form of a pewter cup, over-enthusiastic sportsmen set their nerves on edge and go to it, meanwhile stretching heartstrings to the breaking point and opening wide the door for Sorrow to walk in and usurp households. Make all the comparisons you wish; cite all the cases you can—there is no sport that can compare with motor racing when it comes to furnishing real excitement. Bull fighting is tame, prize fighting is nothing, boating has no element of chance, aerial navigation has only a tinge of excitement when compared with motor car racing on mile tracks. Motor Age does not hope to alter the situation so long as the American public will pay a paltry half-dollar to see from one to three or four persons mangled and tangled through their effort to please the said American public and to secure the aforesaid smile or grand stand applause or pewter cup. It will go on as it has gone until something stronger than sentiment or sorrow or feeling shall put a stop to it. The lessons of the past have been sufficient, but they are like other lessons of the present day—apparently strong but easily pushed aside by a people living on and relishing the most highly seasoned sort of excitement. This is an age of swiftness and perhaps the people inhabiting it are not so much to blame as they may at times appear to be, for they must keep in the procession.

A RELIABILITY run without a protest, a hill-climb with the same clean record and now the Chicago Motor Club is about to run an economy test which promises to be a model of its kind. After listening to the squabble in other cities and shuddering at some of the skeletons exhibited through the opening of the doors of the family closets, it is a pleasure to find one spot on the motoring map where such things are unknown.

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NEW YORK has had another chance to watch a 24-hour race, but how different was this one from that Brighton Beach affair! There has not been the slightest suspicion of a scandal connected with it, the prizes were paid promptly, the spectators saw clean sport and Mr. Bill Pickens was not in evidence. It was a case of the right people being in the saddle. The prodding the A. A. A. received after the several recent fiascos evidently has roused it. The national organization is on the job and Mr. Bill Pickens is becoming a reminiscence—a mere shadow in the background; the worm has turned.

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MASSACHUSETTS seems to be a hotbed of motoring legislation and the solons in the Bay State are confronted by many legal angles and tangles. It does strike one as being a ridiculous splitting of hairs to draw the line as closely as the highway commissioners have done in interpreting that section of the law—which reads "any automobile owned by a nonresident of the state who has complied with the laws of the state in which he resides relative to the operation of motor vehicles may be operated by such owner on the roads of this state for a period of 7 days without a license of the Massachusetts highway commission"—to mean that the owner, after he has crossed the Massachusetts state line must take the wheel and drive or take out a Bay State license. Surely the law never was meant to impose hardships on the owner who does not drive but relies on his chauffeur to pilot him around—all for the sake of $2. The dignified men of Massachusetts should remember that Shylock was but a creature of Shakespeare's creation, not a reality, and pique should not be carried to any degree of excess.

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PIKE'S peak or bust is a familiar phrase, handed down from the days of the old prairie schooner, but it is becoming applicable to motoring now that the record-breakers have turned their attention to Colorado's famous mound. The feat of F. W. Leland in climbing to the top with a four-cylinder Stearns carrying a full complement of passengers is one well worth recording and emulating as well. This climb surely ought to test a motor's power and at the same time call to the attention of the world at large the possibilities of the modern motor car. There are few things left for the motor car to attempt and every fresh indication of its prowess is a step forward on the job of convincing the doubting ones.

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THE finish of the three stragglers in the famous Pekin-Paris race winds up one of the most remarkable tests to which a motor car ever was subjected, but at the same time it teaches the world that civilization, as exemplified by good roads, has spread nearly over the world. That these cars should be able to average 120 miles a day for the entire journey through a region supposed to be almost savage surely shows that the roads cannot have been so bad as at first supposed. Rivers and forests undoubtedly offered obstacles that slowed these travelers. Had it been straight going there is no reason why the record should not have been better. But Americans can get a clear idea of how good the roads through China and Siberia really are by remembering that the Glidden tourists did not average much better than a century and a quarter a day and that through a civilized land. Surely this world is not so very large after all.

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AS USUAL the Chicago show looms up with its space all bespoken a couple of months in advance of its opening. The list made public this week by General Manager Miles shows 250 exhibitors, an appreciable increase over last year, when 222 concerns exhibited cars, parts and accessories. But what makes this first announcement particularly gratifying is the fact that it always has been the case that when the show actually opens it is generally discovered that Manager Miles has in some way or another squeezed a few more in when apparently all the space was gone. Figuring this way, it would seem that the Coliseum and two armory exhibitions will have at least 300 names on the roll by the first week in December. In the first list the accessories department shows strong, there being more in that than a year ago. With the car makers it is the other way—there are ninety makers, in comparison with ninety-six last year. This includes the commercial exhibit, there being seventy-eight makers of pleasure cars.

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WILDWOOD-BY-THE-SEA is a New Jersey town. It is not so very large—indeed, many would have to search a map to find it—but the inhabitants of the seaside resort have hearts in the right place, as was shown by the way they treated the motorists during the recent 5 days of racing there. The principal street of the town was converted into a race course and as long as the meet lasted drivers of commercial rigs had to go through town over some of the side streets. This was not all. The main street had had a billiard table smoothness put on it and the people saw $1,200 worth of dressing ripped up without a sigh by the racing cars. It was a sacrifice, but the Wildwood population considered the money well expended.

THE WEEK IN BRIEF

Three stragglers in Pekin-Paris race finish and long struggle is over now.

Walter Christie does mile in 52 seconds in exhibition performance at Minneapolis.

Bernin in a Renault wins Morris park 24-hour race, establishing single-car competition record of 1,079 miles.

New Yorker endeavoring to run stock car race in Nassau county, Long Island; event may be contested at Morris park.

Chicago Coliseum and New York Grand Central palace shows announce names of exhibitors who have been allotted space.

Stanley steamer, Packard, Buick, Chadwick and Moline cars are winners in 5-day meet held at Wildwood-by-the-Sea, N. J.

Matheson car is declared winner of Wilkes-Barre medal for drawing greatest weight per horsepower per second in recent hill-climb.

Another race track fatality is recorded, Rex Reinertsen being killed during 50-mile race at Pittsburg; Walter Christie and others are injured.

COMING MOTOR EVENTS

Chicago Economy Test—Second annual economy test of the Chicago Motor Club and Chicago Automobile Trade Association, September 13.

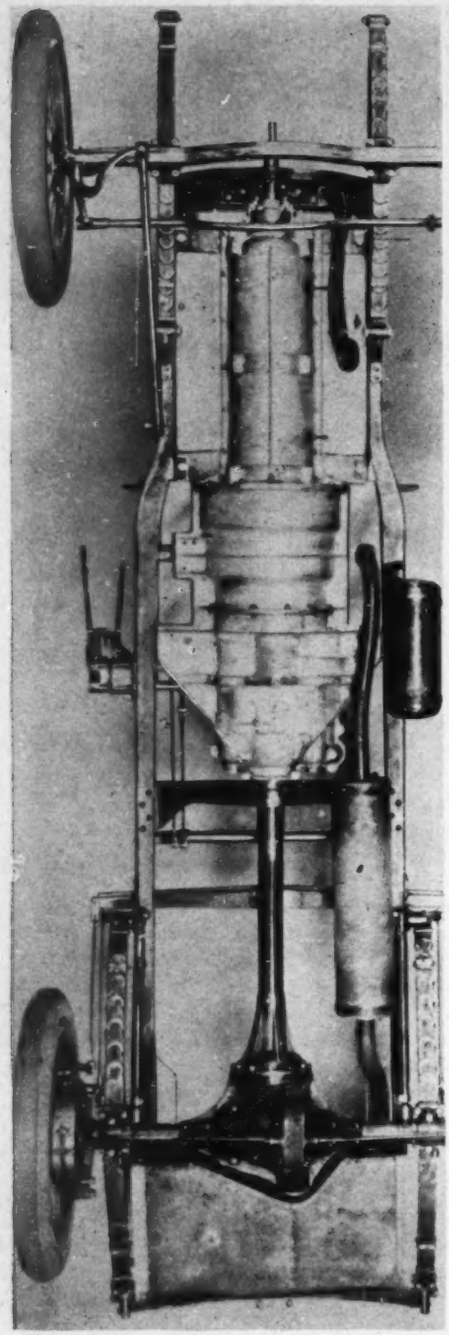
St. Louis Reliability Run—Automobile Club of St. Louis, 90-mile reliability run for owners only, September 14.

Hartford Hill-Climb—First hill-climb of Hartford Automobile Club at Hartford, Conn., September 21.

A. C. C. Show—Automobile Club of America's annual show at Grand Central palace, New York, week of October 24-31.

New York Show—A. L. A. M. show, Madison Square garden, November 2-9, M. L. Downs, 7 East Forty-second street, New York.

Chicago Shows—Eighth annual Chicago show, Coliseum, and first commercial vehicle show at Seventh Regiment armory, both November 30 to December 7. S. A. Miles, manager, 7 East Forty-second street, New York.



UNDER SIDE LOZIER CHASSIS

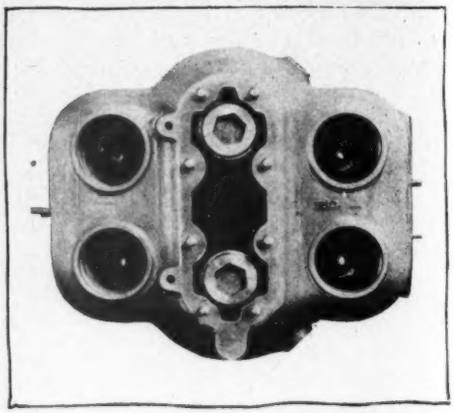
Motor Car Development

Ball Bearings in

THREE Lozier models constitute the 1908 menu of the Lozier Motor Co., New York city. Two of these are absolutely new models, the third is the 1907 car retained without change. Model G is the carried over 1907 chain-driven car and models H and I are the new cars for the approaching season—H a 45-horsepower four-cylinder machine and I a 50-horsepower six-cylinder creation.

Model H marks several radical innovations in Lozier construction. It is shaft-driven, it being the first Lozier not to be propelled by side chains. It is an annular ball bearing car, the four road wheels, the gearset, the motor crankshaft, the camshaft, the pump shaft, the magneto shaft, the distributor shaft, the magneto and the cross shaft carrying the clutches being mounted on annular ball bearings. Heretofore annular ball carried the road wheels and gearset, but they never were fitted in the motor or on the shaftings for the pedals. This car has a gear and clutch driven fan, rope or belt drive not entering into the motor construction. An aluminum cap covers the valve springs and lifter rods on each side of each cylinder casing, these covers being secured by a thumb screw with wing nut, making it a moment's task to remove or replace them. Two separate ignition systems are fitted, the major one a magneto with contained distributing mechanism, the minor one a 50-ampere-hour storage cell combined with a single-unit coil and high-tension distributor. Coupled with the carbureter is a hydraulic governor as used on Napier cars for several years and on Packard machines for a couple of seasons. A new large-sized exhaust manifold is in place. The cylinder castings are made with separate water-jacket heads and in the top of the combustion chamber is a threaded cap, giving access to the combustion chamber without removing the piston.

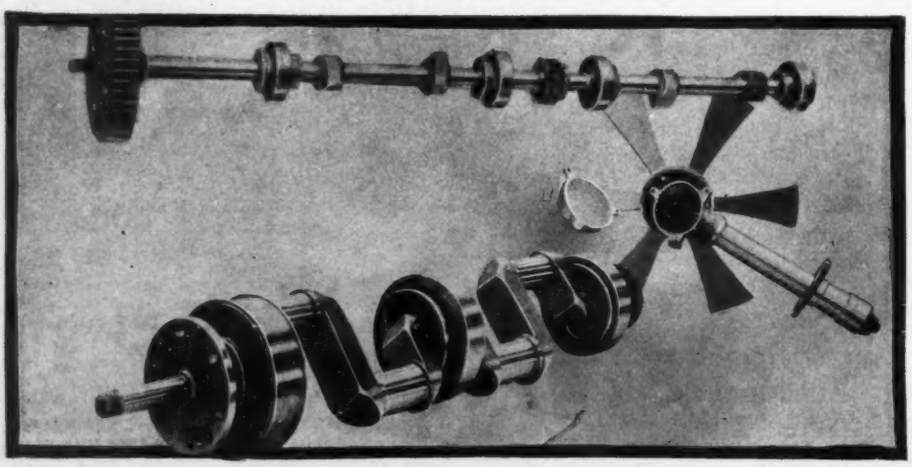
Departing from the motor, several new features may be observed. Between the multiple disk clutch and the gearset is a universal coupling in the form of two meshing gears—one an internal gear, the other an external—with sufficient play among the teeth to give the necessary universal action. The disk clutch is now made with large-diameter disks filling the entire diameter of the flywheel. In the gearset are four forward speeds with direct drive on the third speed. When driving on the direct the countershaft with its gears is thrown out of action, the only gears driving being the bevels in the back axle. The back of the car finds support in a platform suspension, the cross member of which is carried in rear of the rear crosspiece of the frame instead of underneath it—a custom followed by such foreign makers as Renault and Napier. The car body is new. It is a straight-line creation, with seven-passenger accommodations, and a semi-circular depression in the side of the tonneau.



TOP OF LOZIER CYLINDER CASTING

So much for the new points in this four-cylinder shaft-driven machine. Next consider what Lozier constructions have been retained. Casting cylinders in pairs, using double ignition systems, retaining the disk clutch operating in oil, placing valves on opposite sides, cooling through a tubular radiator with fan assistance, using a casting or sod pan for the motor beneath the flywheel and giving a unit construction; platform spring in the rear; pressure gasoline feed from a large tank under the rear of the chassis; selective gearset, and ball bearings are all car marks used for at least a season or two, many of them having found a place in the first Lozier car placed before the public in January, 1905.

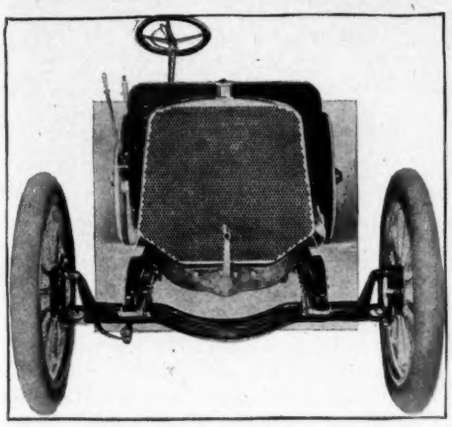
Higher power is a primary consideration in the new four-cylinder motor, with its cylinders with 5¼-inch bore and stroke, giving a rating, according to the A. L. A. M. formula of 45-horsepower, but which on the block shows in the region of 60.



LOZIER BALL-BEARING CRANKSHAFT AND CAMSHAFT

Lozier Shaft-Driven Car

Motor and Gearset



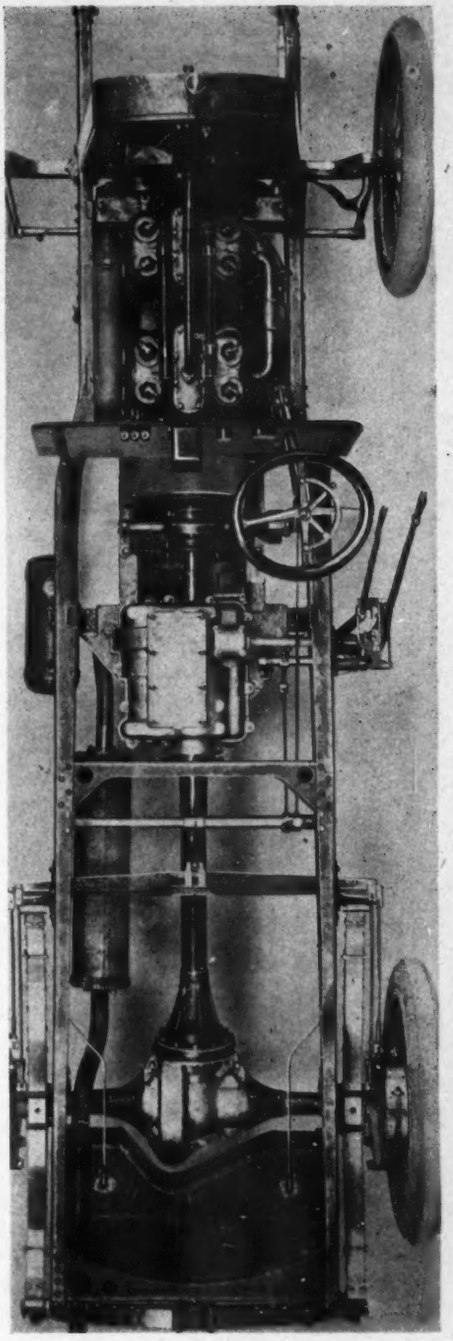
THE 1908 LOZIER FACE TO FACE

The 1907 Lozier has a 4⅝-inch bore and 5½-inch stroke. The stroke has been lessened ¼-inch and the bore increased ⅝-inch. This increase, coupled with the ball bearings fitted throughout, should show a good power increase. In using annular ball bearings only three races have been supplied for the nickel steel crankshaft, these being carried in the top part of the crankcase. Each tool steel camshaft is carried on four bearings of this type. These shafts are not located between the halves of the case, but in the upper portion, making removal endwise possible after loosening the bearing retainers. The pumpshaft on the left and the magneto shaft on the right drive respectively from the camshaft gears. Being mounted in the upper half of the case, they are removable endwise, as are the camshafts. Camshaft gears do not drive directly from the crankshaft pinion, but through a larger-diameter idler, and the six gears are inclosed in an oil-tight case, all of which, except the end cover plate, is an integral portion of the crankcase. As heretofore the crankcase casting is webbed between the supporting arms. The rear end of the lower half has a large semi-circular flange corresponding with the flywheel perimeter and which flange bolts to the forward end of the sod pan, which incloses the lower half of the flywheel and connects the motor with the gearset, all well shown in the chassis view.

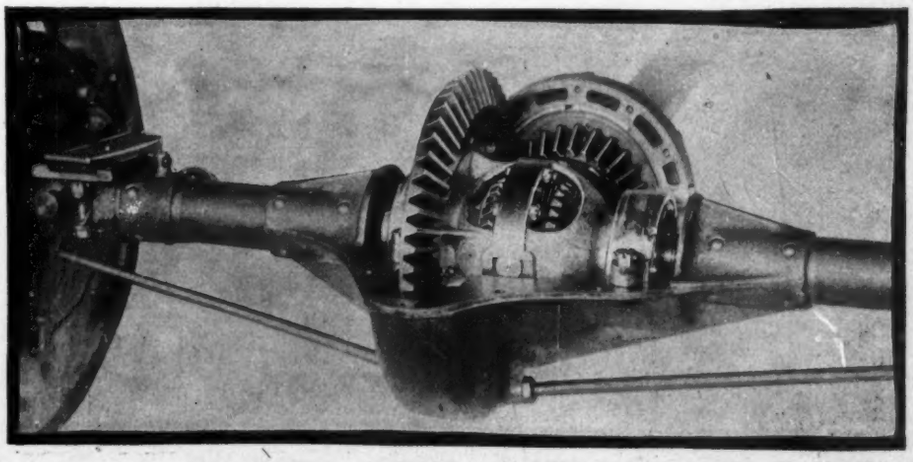
An illustration of another page shows the top of a cylinder casting with the large oval-shaped jacket head removed and disclosing the bronze screw plate plate or cap in the head of the combustion chamber. Several leading makers have used this inspection cap scheme for two or more seasons, and it is noticeable that many big builders of motors show the same design. It permits of cylinder inspection without getting into the crankcase and the detachable jacket head aids in making a cylinder casting in cleaning the water-jackets and in getting the core sand out of the casting.

As exemplified in the new Loziers and in not a few other machines, the belt drive for the fan seems on the decline, the preference being for placing a bevel gear on the forward end of the crankshaft and driving through bevels to a vertical shaft and from this shaft by bevels to the fan-shaft. Lozier provides access to the top set of bevels by designing the casting with an angular inspection plate held by three bolts and which, when off the fanshaft, may be removed. When gearing the fan it is considered best to use a clutch mechanism between the fan and its shaft to prevent too sudden jerks in starting. A six-blade cast aluminum fan is used. In the water pumpshaft is a coupling in order to dismount the pump without molesting its drive gear or shaft. In the magneto shaft is a coupling consisting of a pinion on one part of the shaft and an internal gear on the other half, which coupling provides a simple method of timing the magneto by remeshing the gears one notch or more forward or back as required.

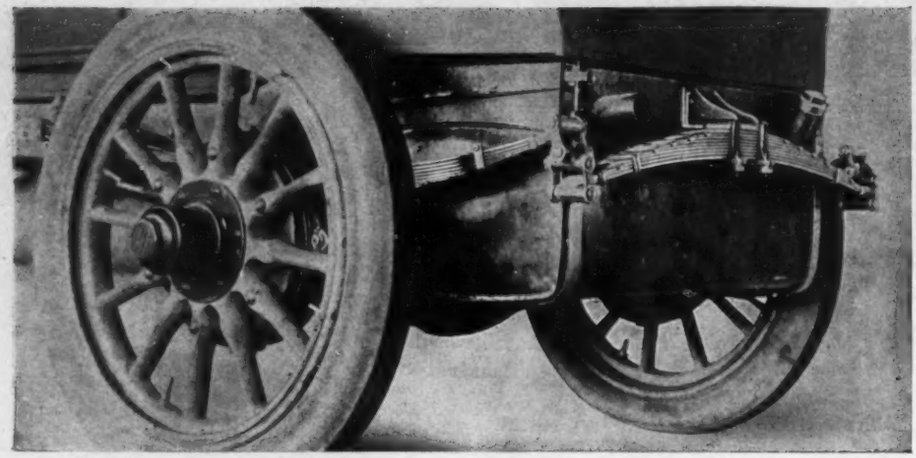
The double ignition system shows several changes over the present dual arrangement, chief of which is placing the distributor between the cylinder pairs. The distributer is ball-bearing, mounted on a fixed aluminum standard between the cylinder pairs on the right, with the distributor permanently fixed and the four terminal high-tension wires stationary, timing accomplished by accelerating or retarding the rotation of the shaft. The timing lever on the steering wheel retards or advances the magneto and battery systems smiultaneously. The Bosch ball-bearing magneto is carried on the motor bed at the right front, immediately in front of the carbureter and where it is accessible without coming into proximity with the exhaust pipes.



TOP SIDE LOZIER CHASSIS



FLOATING REAR AXLE IN LOZIER BALL-BEARING 1908 CAR



LOCATION OF GASOLINE TANK AND MUFFLER PIPE IN LOZIER

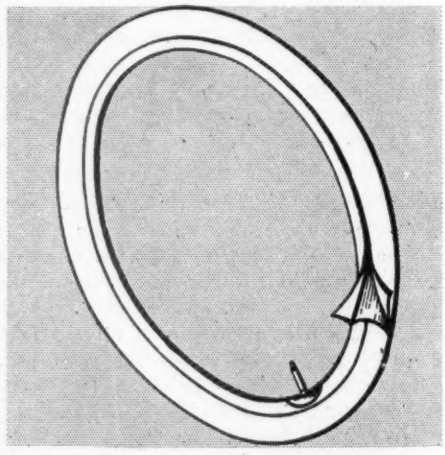
Closely associated with the improved ignition system is the carbureter of the automatic float feed design, with compensatin garrangements and a hydraulic governor operated by the centrifugal water pump. A water pressure acts on a diaphragm which controls the piston throttle. A throttle lever on the steering wheel and an accelerator pedal complete the three-fold control—hand, foot and automatic. The 27-gallon gasoline tank is suspended under the chassis frame in rear of the back axle and its forward surface is concaved where it surrounds the differential housing. The filling top cap has a stick gauge for telling the quantity of gasoline in the tank. Air pressure is supplied by the motor and under regulation of an automatic valve with pressure gauge on the dash feeds the gasoline to the carbureter. The intake pipe is a T with inwardly curved arms, one for each cylinder pair.

A combination force feed and splash lubrication furnishes oil to the motor and its parts. Although the three annular bearings for the crankshaft are self-oiling, oil-retaining rings are fitted to each side of these bearings. The oiler, carried on the left center of the crankcase, has its force feed pumps driven by spiral gears off the camshaft. Its reservoir of small capacity is automatically kept full from a 3-gallon tank on the chassis; air pressure and an automatic valve feeding the oil from the tank to the lubricator. Sight feeds are placed on the rear side of the dash.

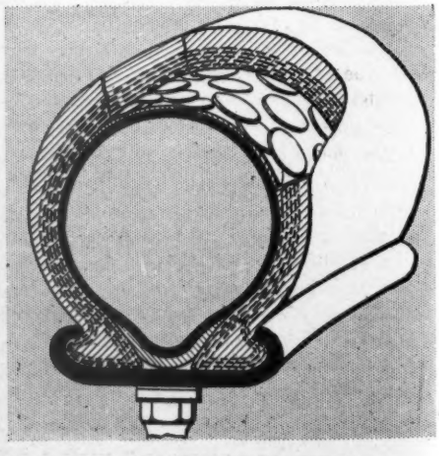
Concerning the moving parts within the cylinders and crankcase: The crankshaft, made heavier than formerly, is a hardened nickel steel piece specially treated and ground on centers by Norton grinders; pistons are lathe-turned inside and out. The outside and inside as well as each ring is ground to gauge; the four rings, piston and connecting rod are weighed so as to balance the moving parts in the cylinders; camshafts, instead of being semi-exposed members on each side of the motor, now are entirely housed within the crankcase. The nickel steel valves of enlarged diameter are made interchangeable. The valve lifter housings are held in place on the crankcase by yokes, one yoke for each side of each cylinder pair, these yokes with the valve parts being housed in the aluminum housings already referred to.

Next comes the clutch: As at present it is a multiple disk one, composed of thirty-three alternating bronze and steel disks. Up to the present the company used thirty-eight disks of this nature and carried them in a small-diameter cylindrical housing bolted to the rear face of the flywheel. Now the number of disks is reduced and the diameter increased and they are carried right inside of the flywheel, occupying its entire diameter. Carrying them in this manner enables the gearset to be placed closer to the motor. The disks are 11½ inches in diameter and have ¾-inch faces. The clutch pedal is interconnected with the gearshifting lever and, like the brake rocker arm, is mounted on annular ball bearings. A ball-bearing plate cares for the clutch thrust.

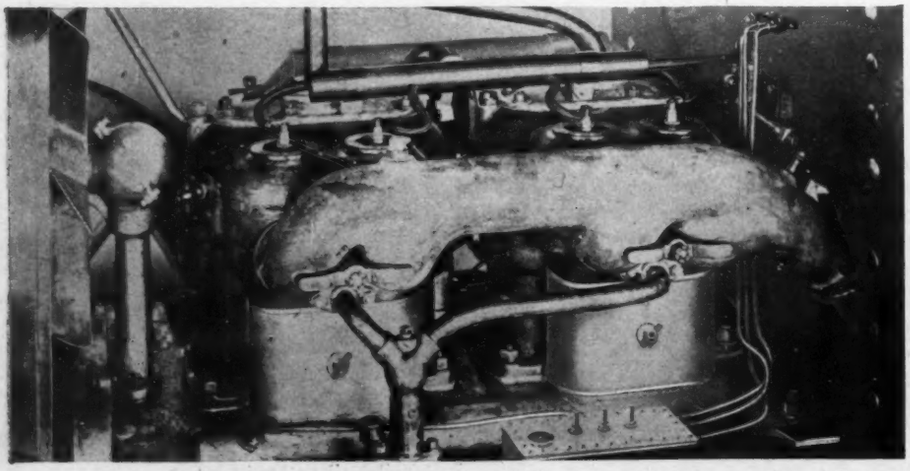
Because of using shaft drive the transmission set appears much different from that used in the '07 car. Direct drive is on the third speed instead of the fourth as used now. Shafts and gears are cut from chrome nickel steel, annular ball bearings are used and the two-part aluminum housing is supported on a three-point suspension and so made that the top half can be removed without molesting the bearings. For inspection purposes a top plate can be taken off. The top plate is removed by loosening wing nuts, the bolts of which are connected to the case and hinged so they may be dropped out of the way and the plate lifted off without removing the wing nuts entirely. The third speed, or direct drive is said to give a speed range of 12 to 50 miles per hour and the indirect fourth speed 50 to 60 miles per hour. Not only are all of the bearings inclosed within the case, but all of the shifter mechanism as well, the change-speed levershaft



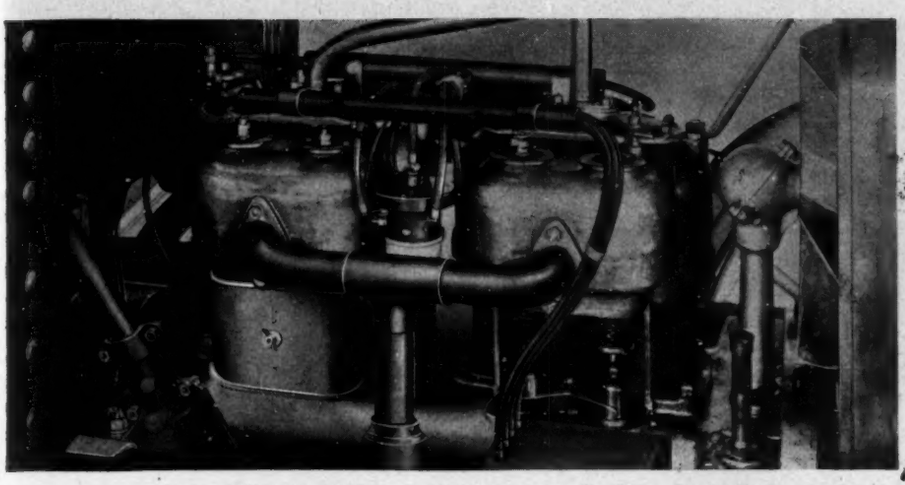
AKRON'S REINFORCED INNER TUBES



AKRON'S ARMORED PROTECTOR



A VERY LARGE EXHAUST MANIFOLD IS USED IN THE 1908 LOZIER



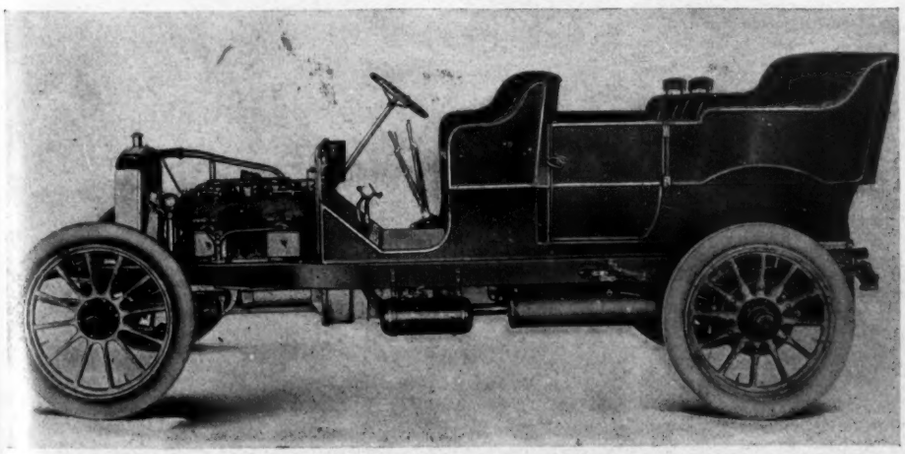
INTAKE SIDE OF 1908 LOZIER MOTOR WITH GEAR-DRIVEN FAN

entering a compartment in the top of the case and having drop arm to engage the three shifter rods. This lever is interlocked with the clutch. The exposed view of the set shows the mainshaft supported on three bearings and carrying five gears. On the front end of this shaft, outside of the casing, is the pinion forming half of the coupling with the clutchshaft. To prevent clashing of gears when changing speeds a disk brake is fitted on the clutchshaft, its duty being to slow the clutchshaft immediately the clutch is disengaged. This brings the gears to a slowdown.

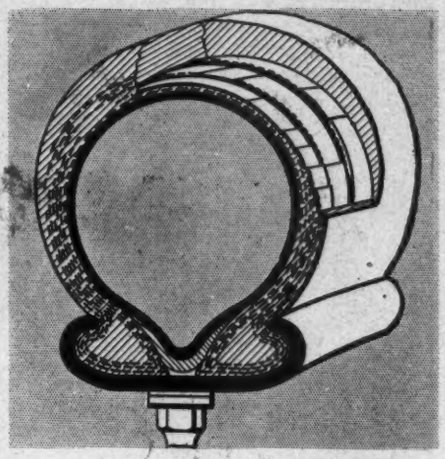
The driveshaft to the axle is a chrome nickel bar, designed to work in a horizontal plane under load and is housed throughout its length in a nickel steel tube supported at its forward end in a ball and socket housing, within which is the one universal joint needed in connection with the shaft. The rear axle, made with nickel steel shafts, has the weight of the car taken on the axle housing. The bevel gear differential with chrome nickel gears has the axle driveshafts housed in swaged nickel steel housing, which are riveted into the cast steel housing forming the differential case. Annual bearings carry all parts.

Doing away with the jackshaft used in chain drive has necessitated a rearrangement of the brakes and now all four are carried on the rear wheels, both sets operating on 14-inch drums with a 2½-inch face width. One set acts within the drums, the other set on them, but both connect with long equalizers placed crosswise of the frame in the rear of the gearset, their ends being outside of the frame side members. These equalizers at their centers connect with arms, one on a cross shaft, the other on a sleeve on this cross shaft and from these connections are furnished with the brake lever and pedal.

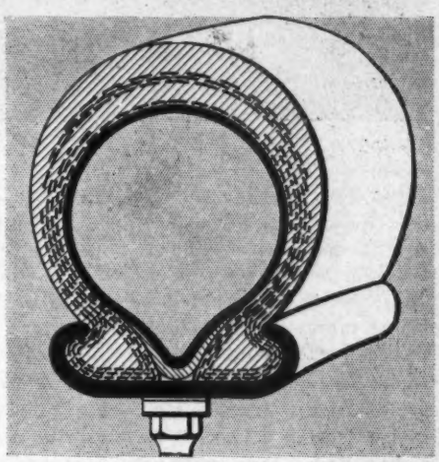
Few changes have been introduced in the running gear, the company using cold pressed nickel steel instead of gun-carriage steel in the frame, and carrying the entire motor transmission parts on the side members excepting the rear gearset support, which comes on a crosspiece. Few cross members are needed, as the motor and gearset cases act as tie pieces, but the back part of the frame is reinforced by a couple, that behind the gearset having integral gusset plates and the back member having its width gradually increased from the center to the side members with weight reduced by perforating the angle parts. A special cross member is furnished for carrying the radiator. Nickel steel forged in I-beam section forms the front axle; front springs are 40-inch semi-elliptics, the platform rear has



STRAIGHT LINES PREDOMINATE IN THE 1908 LOZIER



EXTENSIBLE TREAD CONSTRUCTION



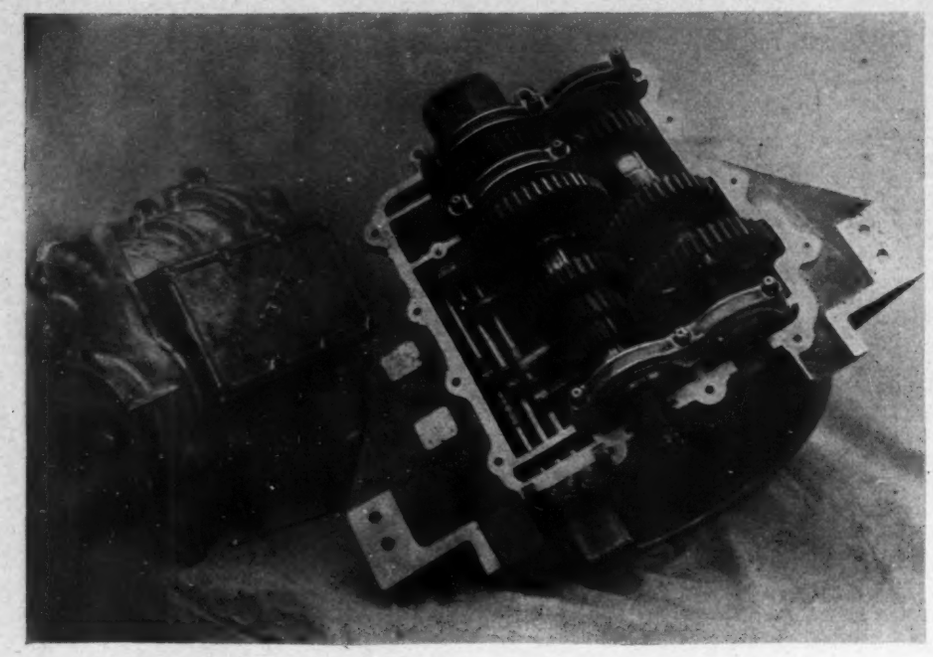
AKRON'S EXTENSIBLE TREAD TIRES

side spring members 51 inches long and a 40-inch cross spring. Steering is through an irreversible worm and gear gearing made with nickel steel parts, the tie rod is in the rear of the axle, the steering column inclined at 42 degrees and adjustable ball and socket connections are used. Wheels in front and rear are 36 inches in diameter and carry 4 and 4½-inch tires. The wheelbase measures 124 inches and the seven-passenger body weighs 3,400 pounds.

The six-cylinder car, rated according to the A. L. A. M. formula at 51-horsepower, has a claimed rating of 65-horsepower. Its six cylinders are cast in pairs and have a 4⅝-inch bore and 5½-inch stroke, the same measurements as used in the '07 four-cylinder machine. This car carries most of the features of the new four and has shaft drive.

AKRON TIRE SPECIALTIES

The Akron Pneumatic Tire & Specialty Co., Akron, O., has several tire specialties, among which is its internal protector for the prevention of punctures, blowouts and other casing injuries. The protector is a flexible armor composed of copper-plated steel disks placed in a strata of rubber in such a manner as to present practically a continuous band between the air chamber and the outer casing in the tread part of the tire. The protector strip being of a flexible nature does not impair the resili-



LOZIER GEARSET WITH DIRECT DRIVE ON THE THIRD SPEED

ency of the tire and can be removed from one tire and placed in any other make of tire of the same size. The maker claims that as the protector takes much of the strain in the tread old cases can be used longer than without the armor protector.

A second introduction is its extensible tread pneumatic tire in which the fabric is discontinued at the hinge in the tire and replaced with rubber. As a result the maker claims there will not be any ruptures in the fabric, ruptures from stone bruises or breaking from natural service, thereby eliminating the many punctures and blowouts. The discontinuance of the fabric allows the rubber to take care of the radiation of heat and less wear is claimed on the tire because of the extensible feature permitting the tire to take into itself any object with which it may come in contact on the roads.

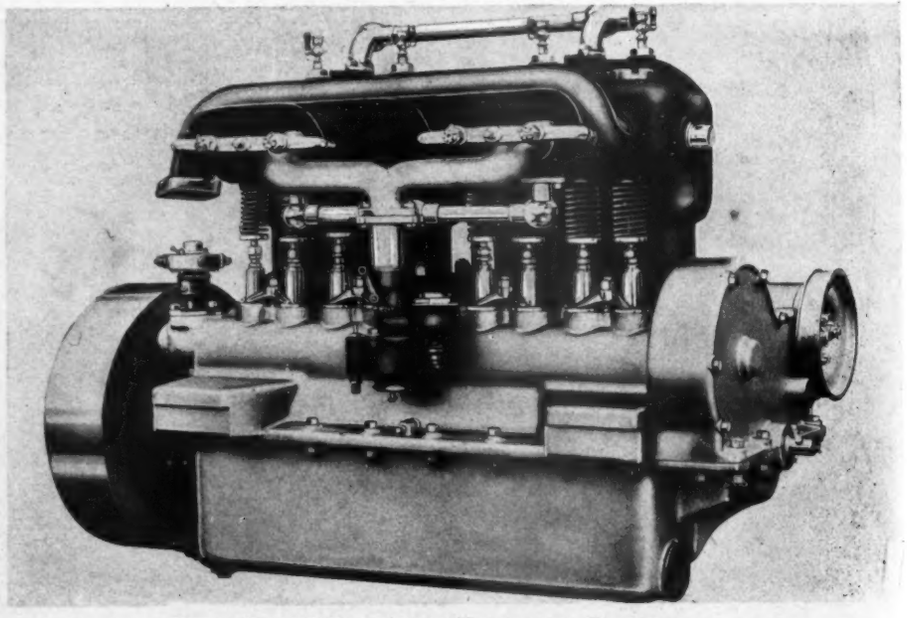
The third feature is the reinforced inner tube, in which the inner tube has a fabric envelope or covering entirely enclosing it and which is intended to prevent pinching by clips or beads of the case when the casing is not put on or because of ruptures in the fabric or chafing when the tire is run flat. The reinforced tube or envelope is much stronger and is claimed to be capable of carrying an air pressure equal to that necessary for carrying the car and because of this it is expected to relieve the outer casing of much of its strain. In attaching this envelope or protector the inner tube is placed in it, after which it is placed in the outer casing of the tire.

TWO SIZES OF CONTINENTALS

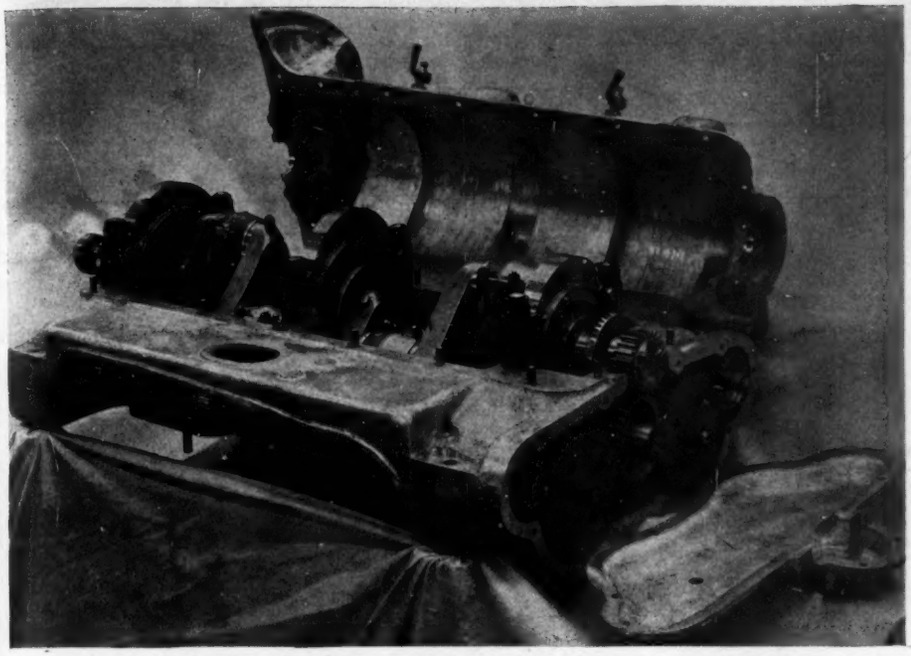
Continental motors are now manufactured in two sizes, known as types H and HB, the H with 4¾-inch bore and 5-inch stroke, 38-42 horsepower, and HB 5-inch bore and stroke, 44-48 horsepower. In both of these motors the Continental Motor Mfg. Co., Muskegon, Mich., follows very popular construction by using cylinders cast in pairs, each twin casting having integral cylinder walls and jacket walls, but separate jacket heads, a large oval plate fitting over the jacket head of each casting. This is a foreign idea and permits of the cylinder cores being more uniform and allows of the sand being entirely removed from the core. Furthermore, the top of the combustion chamber receives a threaded cap, so that by taking off the jacket head and removing this cap access is gained to the combustion chamber. Several of the new 1908 announcements show motors of this construction. The crankcase in both sizes is a two-part aluminum affair, the upper part carrying the three white bronze bearings for the crankshaft and also carrying the camshaft, which revolves on three long phosphor bronze bearings fitted with oil pockets and so designed that the shaft may be withdrawn intact by removing retaining screws. The lower half of the case has an oil reservoir in its base, with a glass bull's-eye in the forward end for indicating the oil level. The castings for both halves are nickel aluminum alloy. Formed integrally with the upper half is a housing for covering the half-time gear, also the gear which drives the pump and magneto on the left side.

The general layout of these Continental motors is slightly different from the ordinary motor in that the valves are mounted on the right instead of the left side. Because of this a good distribution of the many motor accessories is obtained, the magneto being on the left rear motor arm, the pump on the left opposite the second cylinder and the carbureter centrally located on the right. Water intakes are beneath the valve chambers, the piping passing from the pump across between the cylinder castings and branching forward and rear, one to each casting. This means three sets of piping on the right side, the intake to the valves, the exhaust manifold and the intake water pipe, all of which are carried well up so it is possible to get at the eight valve lifter rods and without trouble remove the pins holding the spring seatings and dissemble the entire valve system. The exhaust and intake manifolds are held to each cylinder casting by a horizontal yoke, the ends of the yoke bearing upon the branches of the exhaust manifold and the center of the yoke holding the intake pipe through an adjusting screw. The yoke itself is held to the cylinder casting by a pair of studs, one at either side of the intake pipe.

Passing next to the internal part of these motors, it may be mentioned that the cylinders are tested under hydraulic pressure before and after machining. They are bored, then reamed and finally ground to a mirror finish. Pistons are finished by grinding and carry four eccentric rings



VALVE SIDE OF CONTINENTAL MOTOR WITH CARBURETER



LOZIER BALL-BEARING CRANKSHAFT IN POSITION IN THE CRANKCASE

with lap joints, which rings are turned and ground on both sides and bearing surfaces. Five oil grooves are placed beneath the piston pin; the wrist or piston pin, made from seamless cold drawn steel tubing carbonized and ground to size, is pinched in the split end of the connecting rod; connecting rods are steel dropped forgings of I beam section, with the connecting rod cap at the lower end secured by four bolts; intake and exhaust valves are nickel alloy, with ground seatings and made interchangeable, the heads and stems being one piece and the stems ground and fitted with a simple spring retaining washer. The crankshaft is an alloy steel forging and is turned and finished by grinding to size, it having a large flange by which it is bolted to the flywheel. The timer is driven from the rear end of the camshaft by double gears and in the illustration of the right side of the motor appears slightly above the flywheel. The company recommends self-contained oiling for these motors and for this uses the reservoir in the lower part of the crankcase, which holds 3 gallons of cylinder oil. With this system an oil pump is carried on the lower end of the shaft carrying the timer and located within the crankcase compartment or on a separate shaft driven from the camshaft. This pump delivers the oil to all the bearings as well as the cylinders from which the overflow falling into the crankcase drains back into the reservoir, whence it is filtered and ready to be pumped again to the motor bearings.

In these motors the following measurements are used: Flywheel diameter, 16¾ to 17¼ inches; connecting rods, 12 inches, center to center; camshaft, 1 inch in diameter; pistons, 6 inches long; piston rings, ¼ inch wide; cylinders offset from crankshaft, 1 inch; crankpin bearings, 3 inches long and 1⅞-inch diameter; front crankshaft bearing, 3⅛ inches long; middle crankshaft bearings, 3¾ inches long; rear crankshaft bearing, 5 inches long; diameter of all crankshaft bearings, 1⅞ inches. These motors are furnished with arms for sub-frame construction. The H motor weighs 550 pounds, the HB 565 pounds.

MOTOR CAR LITERATURE

Tarvia is the subject of another booklet, this time its maker, the Barrett Mfg. Co., makes alternate pages road and street illustrations showing thoroughfares treated with Tarvia, others showing the spreading of Tarvia on streets and still others showing the effect of this dust-preventive on a road surface. The book is one of the best of the many interesting ones that the company has gotten out.

The Winton Motor Carriage Co. is circulating its first 1908 catalogue dealing with its Six-Teen-Six 1908 six-cylinder car. The major portion of the book is occupied by six-cylinder talk and telling of Alexander Winton's six-cylinder experimenting. In the remainder is given complete specifications of the car. On each page is a two-color landscape design. The illustrations are confined to a side view of the car and side section of the chassis.

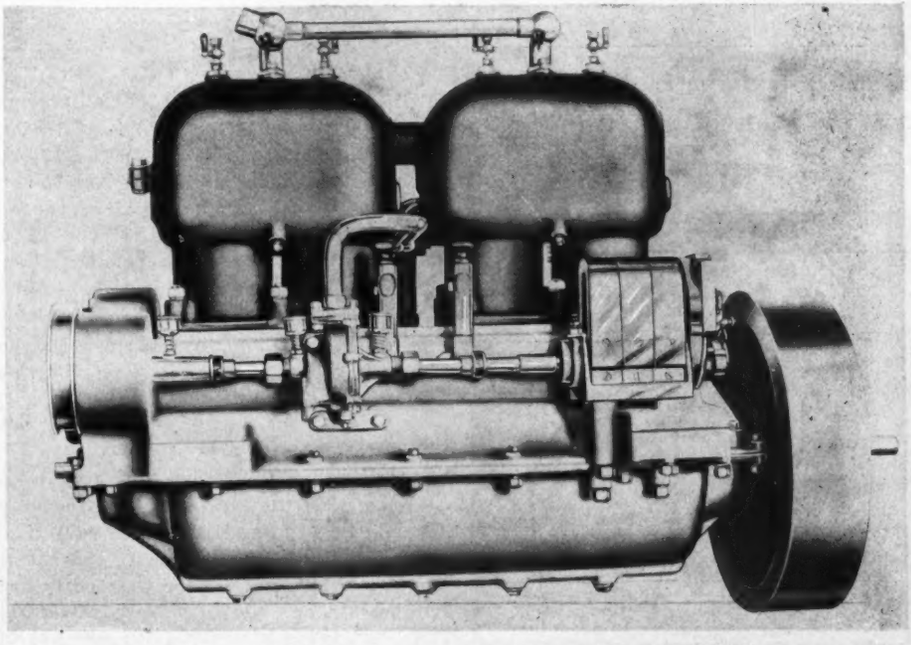
The September issue of the Studebaker, the monthly organ of the Studebaker Automobile Co., contains on its inside cover an interesting photograph of the Studebaker July 4 float filled with children seated in miniature Studebaker vehicles.

The Sprague Electric Co. in its bulletin No. 10 describes and illustrates its electric dynamometer used for testing gasoline engines. The descriptive matter gives all details and equations necessary in the testing of a gasoline motor with this instrument.

The Automobile Club of Bridgeport, Conn., is circulating copies of its constitution and by-laws together with an interpretation of the 1907 Connecticut motor car law by Edward F. Hallen, counsel for the club. The interpretation is an eight-page leaflet covering every phase of the law and dwelling on its peculiarities and important points.

The Autocoil Co., Jersey City, N. J., has in the mails 14 by 21-inch folders illustrating and giving the prices of its four-cylinder coils, motor cycle coils and non-vibrator coils.

Long-Turney Mfg. Co., the home of the Rome spiral tube radiators and condensers has a well-illustrated catalogue showing each style of radiator manufactured, how the cooling coils are carried on the pipes, the coil construction and how the pipes are supported in the radiator frame.



THE PUMP AND MAGNETO ON THE LEFT SIDE OF CONTINENTAL MOTOR

DEVELOPMENT BRIEFS

LATEST BREEZE CARBURETER

The latest model of the Breeze carbureter, manufactured by the Breeze Carbureter Co., 276 Halsey street, N. J., has a non-fluttering auxiliary air valve and a starting device designed to do away with the priming pin. The carbureter of the central-draught float-feed type with a detachable style of choking tube around the spray nozzle has these tubes, furnished in any size to suit the suction of the engine on its low speeds. The gasoline valve has a knurled and indexed head, which is operated from the top of the carbureter. The point is a combination of a conical valve with a sharp-edged flange, which projects the gasoline at right angles to the air passing by it. The main air supply is taken in through the elbow on the bottom. In starting, if necessary, as for instance, with a cold motor, the air is nearly all closed off and the suction increased by the starting shutter, which is swung into position by pulling a wire, which for convenience is carried through the radiator near the starting crank. The wire may be kinked to hook over a radiator fin or an arrangement may be made to operate the starting crank. When the engine starts the wire must be released and a spring swings the shutter back away from the air intake. The start may be made with the throttle nearly closed and the engine does not race while the operator is getting round to the throttle lever to shut it down. The lever operating the shutter may be set so that a pull from any given direction will close it. The main air intake elbow can have a hot air pipe attached and can be set in any position. After passing the spray nozzle the carbureter air passes into the mixing chamber and past the throttle valve to the engine. Either horizontal or vertical engine connections are furnished.

In order to regulate the richer mixture taken up at higher engine speeds the auxiliary air valve is provided. This consists of a valve rigidly connected to a closed cylinder and sliding on a stationary guide rod and piston. The piston is fitted to the cylinder, so that the contained air slowly escaping from one side to the other checks the fluttering tendency of the valve and it retains its position as determined by the engine suction and does not vibrate between the successive piston strokes. A spring keeps the valve seated when the suction is low and can be adjusted to the proper tension by raising or lowering the guide rod, which is threaded into the valve dome and held to its place by a lock nut. The shape and diameter of the air valve dome determine the amount of pure air supplied to the mixture at any engine speed. The float is of spun metal of special composition. The float feed mechanism is of a standard type.

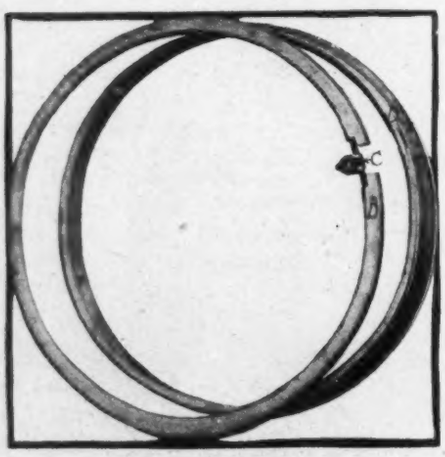


FIGURE 2—MIDGLEY RIM

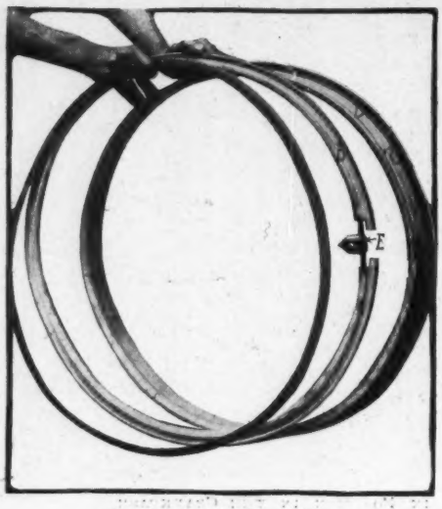


FIGURE 1—MIDGLEY RIM

MIDGLEY IMPROVES RIM

The latest improvements by Thomas Midgley on his Midgley universal rim, marketed by the Hartford Rubber Works Co., Hartford, Conn., makes it possible by the use of two detachable rings to use either clincher or Dunlop tires on a wheel fitted with this rim. The rim has three parts, marked A, B and C in the assembly illustration. C is the rim of the wheel, with a permanent flange D on one side. On the opposite side is a groove for receiving the ring B with its turnbuckle E, this ring B being so shaped that when put on it has a clincher contour corresponding with the flange D; when reversed it is suitable for a Dunlop. The rubber ring A is used only when a Dunlop tire is fitted, at which time it rests within the clincher D, the rim B being reversed with its clincher outwards. Figure 2 shows the ring B with its turnbuckle C in position for a clincher tire in that its clincher contour is facing the clincher D. Figure 3 shows the ring B attached for a Dunlop tire in that its clincher contour is facing outwards and in that the rubber ring A reposes within and fills the entire concave of the permanent clincher D on the rim. The turnbuckle feature used on this rim is the same as that marketed by the company during the past year.

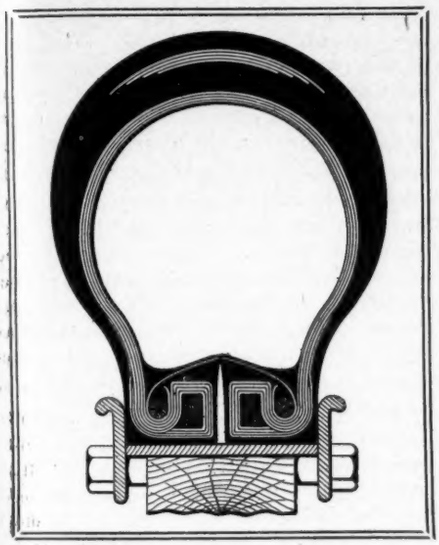
MANUFACTURERS' PARAGRAPHS

The Ward Leonard Electric Co., Bronxville, N. Y., manufacturers of rheostats, in installing its system couplies each rheostat in series with a combined overload and underload circuit breaker. The overload circuit breaker is provided to prevent charging at such a rate that the cells of the battery will be destroyed or the rheostat damaged. The underload circuit breaker is used to automatically open the circuit when the cells are fully charged. A universal type rheostat may be used and which will take care of many different cars, with widely differing number of battery cells. For example, an MP 140 can be used to charge any number of cells from one to forty-four at any charging rate from 4 to 40 on a 125-volt circuit and any ignition storage battery with any number of cells. The rheostat is 15 inches wide, 24 inches long and 8 inches dep and with it the charge can be set at any rate, depending on the time at hand.

The 1908 design of the Traver patent blow-out patch is out. The original form, fitting inside between the shoe and inner tube, thus covering all holes, whether blow-outs or rim cuts, is retained, but it is made more pliable, which makes it easier to insert. A new system of tapering the canvas at the ends so it may permit the tube to lie smooth is employed, and a friction surface is provided, increasing its capacity ot "stay out," the whole patch being hand made by the wrapped process instead of made in moulds.

FIGURE 3—MIDGLEY RIM

CURRENT MOTOR CAR PATENTS



BAKER'S PNEUMATIC TIRE

Protected Tire Tread—No. 865,288, dated Sept. 3; to E. K. Baker and C. G. Hawley, Chicago, Ill.—A crescent-shaped strip of fabric is vulcanized over the tread portion of the tire, extending half way to the rim of the wheel at either side. Imbedded in this fabric is a great number of U-shaped metallic staples, the ends of which are in the tread portion of this strip. The free ends of the staples not only act to prevent slipping when skidding but increase the wearing quality of the tire considerably.

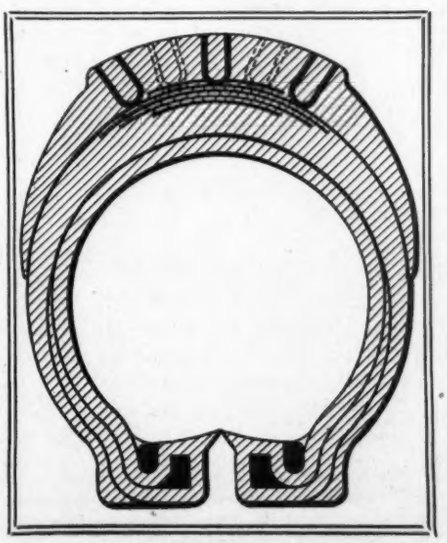
Mechanical Lubricator—No. 864,876, dated Sept. 3; to H. A. Weihman, Chicago, Ill.—In combination in this patent is a conventional rectangular-shaped tank for the pump mechanism, together with a plunger operating in the pump and a yoke pivoted to this plunger. A shaft passing between the arms of the yoke is driven from the motor and serves to operate the plunger in that it has a cam bearing upon a shoulder on one of the arms of the yoke which raises the plunger. A spring engaging the other arm of the yoke holds the shoulder normally in the path of movement and also forces the plunger back to its normal position.

Automatic Mixing Valve—No. 862,130, dated August 6; to H. Bonte, Nuremberg, Ger.—This invention relates to a peculiar form of air valve intended for a carbureter in which the valve controls the supply of entering and auxiliary air as well as regulating the passage of the explosive mixture to the cylinders. The valve is double-seated and is placed centrally in the mixing chamber. Surrounding it in the form of a ring is this mixing chamber with openings in its outer wall and a surrounding air chamber which communicates with the mixing chamber through these openings so that as the valve is raised or turned the incoming supply of gasoline may be regulated independently of the incoming supply of air.

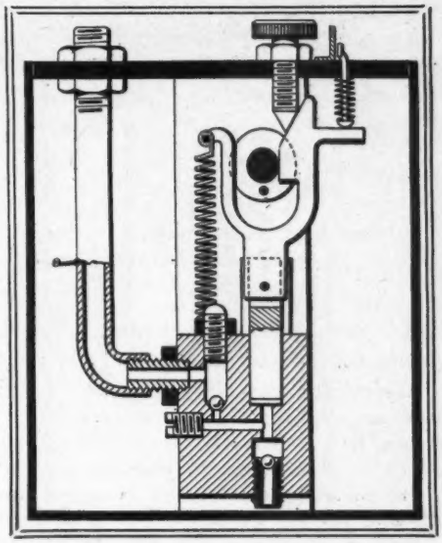
Two-Cycle Motor—No. 865,135, dated Sept. 3; to B. L. Toquet, Westport, Conn.—This motor operates on the three-port principle, the mixture going from the carbureter into the crankcase and from the crankcase through a by-passage in the cylinder wall to the combustion chamber. The patent consists in placing a movable screen in this by-passage between the crankcase and the combustion chamber, so the explosive mixture is directed wholly through the screen or through a part of the screen or entirely clear of the screen.

Removable Rim Flange—No. 864,911, dated Sept. 3; to J. M. Padgett, Topeka, Kan.—This patent refers to a wheel rim intended for clincher tires and which rim has a permanent clincher flange on one side and a removable clincher flange on the other side, the patent referring particularly to the method of retaining the removable flange in the groove in the wheel rim. This clincher flange is cut to form separable reversely beveled ends, one to overlap the other. These ends of the flange and the wheel rim are provided with co-acting studs and openings to receive these studs by means of which the flange is locked in position. The stud which secures the overlapping end of the clincher flange is removable and has a spring which holds it in locking position.

Pneumatic Tire—No. 865,326, dated Sept. 3; to E. K. Baker and C. G. Hawley, Chicago, Ill.—The tire which forms the subject of this patent is made with inwardly extending base portions which abut at their inner edges, the tire being held to the wheel by straight side flanges. These abutting ends are higher than the side



BAKER'S STUDDED TIRE TREAD



WEIHMAN'S MECHANICAL OILER

flanges and so cutting on a flat tire is prevented. The lip pieces of the tire contain in their outer edges endless cables and in their inner or abutting edges incompressible fillers. The fabric of the tire casing winds outside of and beneath the wire cable and then entirely surrounds the incompressible fillers. By this construction the inventor hopes to gain an incompressible non-expansive tread or tire base so that clincher flanges are not needed.

Rubber Block Tire—No. 865,028, dated Sept. 3; to G. O. Fankboner, Cleveland, O.—Instead of using a continuous rubber tire, the inventor uses a couple of cylindrical rubber blocks between each pair of spokes. Each block operates in a short cylinder passing through the rim of the wheel. The inner end of the block is attached to a short shaft working in a small diameter cylinder and beneath this shaft is a spiral spring.

Equalizing Springs—No. 862,556, dated August 6; to R. G. Handy, Bay City, Mich.—Instead of using semi-elliptic or full-elliptic springs for the front of the motor car the inventor makes use of a pair of L arms, which are mounted transversely above and immediately in rear of the line of the front axle. The angles of the arms are pivoted to the right and left side pieces of the frame; the other ends of the long arms of the L connect by short links with the top of the steering knuckle jaws and the ends of the short arms are connected by a horizontal spiral spring which is immediately in rear and on a level with the axle. Should the right side of the car be loaded that side in being forced downwards extends the spiral spring and when raised shortens it; thus the front of the car is suspended on this transverse spiral through the medium of the double L rods.

MOTOR CAR SPRINGS AS THEY SHOULD BE

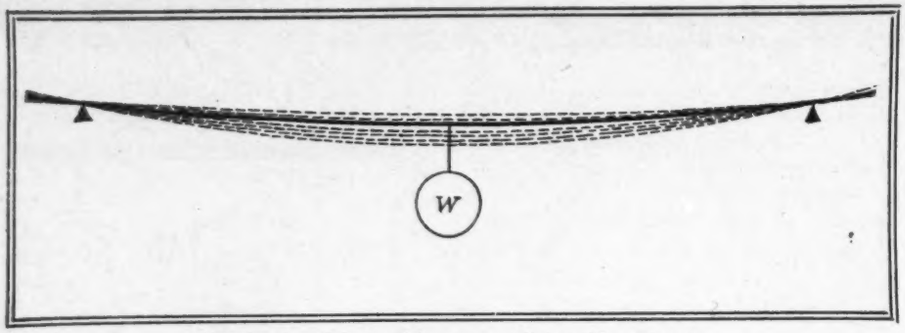


FIGURE 1—SHOWING NUMBER OF QUICK VIBRATIONS

THE laws which govern the construction of springs to obtain the best results not only in durability but in other respects also have long been known, but are seldom made use of in the proper way, even by persons who are familiar with the formulas commonly employed. Many manufacturers furnish and guarantee the life of springs which are constructed not upon well-prepared specifications, based upon the properties of steel and upon a full knowledge of the service in which the springs are to be used, but upon the crudest data imaginable and without the least inquiry as to the service. Many specifications are received by manufacturers defining conditions which cannot be complied with. The results are increase in cost of production and failure in service.

When springs of this kind break the makers are held responsible and a replacement is requested, and unless they succeed in proving tough usage it is generally complied with; whereas, if conditions or actual requirements were thoroughly understood, the cause of the trouble would be removed and the manufacturers would not be blamed. The cause of all trouble with springs, aside from poor material and workmanship, is found in an excessive deflection—i. e., a deflection which produces stresses in the material beyond its endurance. The deflection of a given size of steel is limited to an amount corresponding to the strain the material is able to endure without rupture, and consequently if this is exceeded failures will result. When, therefore, the deflection is forgotten, or not considered in the calculations, springs are generally produced which prove anything but serviceable and must be frequently renewed at great cost and inconvenience. The deflection is therefore the paramount issue in the construction of springs. There are, however, three kinds of deflection, which may be termed desirable deflection, permissible deflection and possible deflection.

The desirable deflection is the amount a spring should be able to deflect in order to avoid shocks and produce good riding over a rough road and must be provided for in the construction of motor cars so that a sufficient amount of material of proper dimensions may be used. The permissible deflection is the amount a spring may be deflected repeatedly without breaking or without changes in its original shape. The ability of a spring to deflect within safe limits depends entirely upon the proportions of the plates, which will be explained further on. The possible deflection is the total distance a spring may have the opportunity to deflect if allowed to do so, and which is generally not provided for in the construction of springs.

In full elliptical springs the possible deflection is the distance between the center when free. The distance can be so proportioned to the dimensions of plates that when the centers meet the material has not been overstrained. In half or semi-elliptical springs the distance may be much greater than the permissible deflection, and if the spring is permitted to deflect the entire distance it is apt to break or take a permanent set, either of which is equally objectionable.

Construction should, therefore, be so made that the possible deflection does not exceed the permissible deflection, and if this is impracticable in the ordinary construction of frames, etc., some means should be introduced which will accomplish the same results.

The object of this paper is, therefore, to call attention to the methods which should be followed in the calculations of elliptical and semi-elliptical springs so as to guard against an excessive deflection, which is the principal cause of broken springs, and thus bring about a better understanding between the makers and users of such springs.

To make the subject clear to those who may not be perfectly familiar with the laws governing strains in materials, some elementary explanations will be used, which it is hoped will be excused by those to whom they may be unnecessary. It is well known that if a piece of steel or other material in the shape of a bar is supported upon its two ends and a load is applied in the middle of the bar, the material will be subjected to strains, and if the load is great enough the strains will go beyond the endurance of the material and the piece will break or its original shape will be changed.

It is also well known that all material will deflect more or less when supporting a load in this or similar ways, and, further, that the amount a given piece will deflect depends entirely upon the magnitude of the load or its momentum, and that therefore the greater the load the greater is the deflection. It is equally as well known, but generally lost sight of, especially in spring construction, that the strain in the material increases directly as the load, and consequently as the deflection. Therefore the strain in the material is twice as great if deflected 2 inches as it is if deflected 1 inch only, and three times as great if deflected 3 inches; from which may be seen that if there is no limit to the deflection, the material will be overstrained, from which it naturally follows that while springs are made use of for the purpose of obtaining deflection and to gradually check and bring to rest a suddenly applied force, it is evident that the deflection must be limited within certain boundaries.

The extent to which a given spring may be deflected—the permissible deflection—depends upon several things, among which may be mentioned the nature of the material, the length and proportionate arch, the width and thickness of the plates. Of these the first mentioned is perhaps the most important, for without proper material the most careful calculations will not produce the desired results. The importance of the other two items is found by calculations based on formula and experience.

These formulae show that the deflection is governed entirely by the length and thickness of the plates, and that the relative proportions between these two dimensions cannot be changed without a change in the deflection. A plate of a fixed length and thickness, or a spring of fixed length and thickness, no matter how wide the plate may be or how many plates the spring may be composed of, has a well defined—permissible—deflection which cannot be exceeded without straining the material. The relations between the deflection, thickness and length of plates must therefore be maintained within figures corresponding to the strength of the material in order that the best results may be obtained. These relations are often overlooked in the construction of springs.

Springs are used on account of their ability to absorb through sudden deflection increases of loads and to regain their original shape when the excess load has been removed, thus avoiding violent shocks. The greater the distance through which a

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Editor's Note—This is a paper read at the Buffalo meeting of the society of Automobile Engineers on construction of motor vehicle springs by J. G. Rumney non-member.

spring can deflect, the longer is the time in which the load is fully applied, and consequently the less severe is the shock. The more sensitive it is to any variations in the load the easier the vehicle will ride. The nearer the spring is loaded to the elastic limit of the material the slower, longer, easier and more uniform are the vibrations. This statement may not be understood, but may be verified in a simple manner by placing a piece of wood or other material on two supports and load it in the middle with a suitable weight. If the relation of the weight to the material and section of the piece is such that the stress in the material will be comparatively low, the action of the piece, if set in motion, will be in the nature of a number of small, very quick vibrations, as shown in figure 1.

The full line is intended to represent the position at rest and the dotted lines the number and magnitude of the vibrations. If the load is increased so as to approach nearer to the elastic limit the vibrations will be as shown in figure 2, a few long, slow movements. There can hardly be any question as to which one of the two methods should be followed in order to produce smooth riding.

When deciding, however, as to how near the stress under the static load may approach the elastic limit, it must be borne in mind that if it is too near the limit very little additional deflection can be obtained before the elastic limit is reached and the usefulness of the spring is destroyed. Practical tests have demonstrated, however, that a strain under a static load of 60 per cent of the ultimate resistance of the material is permissible and will leave sufficient margin, in the majority of the cases, for the absorption of ordinary shocks.

We have tried to discover the reasons why springs did break, and looking into the matter in various ways we came to the conclusion that there were, as it may be called, no safety valves placed upon the springs, that is, at least upon the semi-elliptical springs.

The full-elliptical springs have a safety valve, and if properly designed the springs cannot be overstrained, for when the centers meet the strain is at its limit, but with the semi-elliptical springs the situation is different; there is nothing to prevent the springs being deflected beyond their elastic limit.

The method of calculating springs has been laid down by Reuleaux in his formulae, and if they are properly understood there is no reason at all why manufacturers should not make proper springs. But the formulae are not understood, and as a last resort manufacturers generally specify the weights that the springs are to carry and leave the rest to the spring makers, and allow them to design any spring that is suitable to carry the static load and which they think they can guarantee. Many manufacturers do not look into the conditions under which the springs have to work; they look on the load and the material, not on the deflection at all, and springs are placed in service in positions where they are not suitable.

It is quite easy to take all these things into consideration, and this paper was written for that purpose—to point out what should be considered in calculations of springs, and the main point, aside from proper material, is to pay due regard to the deflection. The breakage of a spring is due to an excess of deflection; that is to say, if the road is rough and with fast speeds, the result is that either springs take a permanent set or the plates will break. The deflection is determined entirely by the length of the springs and the thickness of the material. Any spring that is properly designed should last until the material has become fatigued through constant use.

The question as to what should be a proper deflection for springs has been argued in many ways, but I think it will be agreed that the greater the deflection can be made the better the vehicle will ride, and after it has been determined what the deflection should be the remaining requirements may be readily calculated.

The riding of the vehicle depends largely upon how high the strain in the material is allowed to be under the static load. The nearer the strain comes to the elastic limit the easier the springs will act; the farther away from the elastic limit the rougher will be the riding.

The best spring makers using the very best steel cannot make a satisfactory spring unless the deflection is limited within the bounds of the elastic limit of the material. Next to the steel, or perhaps more than the steel, the construction of the springs is, in most cases, of the most importance. Also of prime importance are a properly standardized uniform heat treatment, special composition, high tensile strength steel, and intelligent design, associated with modern refined heat treatment. These are necessary to produce springs such as are required by motor car manufacturers who desire to maintain a good reputation.

I have endeavored to be brief and have confined myself to one phase of spring manufacture and I trust a phase which will be of some interest to you. Also I would disclaim full credit for this paper, because owing to illness and absence from home I have been unable to give the matter proper attention, so have been compelled to use some extracts from papers of others, my chief authority being C. A. Lindstrum, M. E.

TRADE IN PARIS POOR

Paris, Sept. 1—Trade in Paris is not booming. The home trade has been bad all the year, and agents have large stocks on their hands. The export trade is not very healthy, for it has fallen off slightly with England as regards numbers of complete cars exported, and seriously with the United States and Italy. It would be too much to say that there is a crisis, for makers are as busy as ever with contracts and orders. Taximeter cabs are still in great demand and are being delivered slowly enough. Other lines are slack, for the would-be purchaser desires to see the good things of this year's show in November before placing his order. The rental business as usual has been brisk. A big trade is being done in renting cars for touring over the splendid French roads and through historical districts. Conditions are changing in France as regards the motor car trade, and a study of these conditions is interesting in view of the keen competition and the varying demand which has brought about the climax.

PEKIN-PARIS RACE OVER

Paris, Aug. 30—The finish of the two de Dion and the Spyker cars in the Pekin-Paris race has been the subject of a deal of rejoicing and popular enthusiasm in Paris and France generally. People turned out in thousands to see them finish the tour. The drivers of the de Dion cars look as hardy as their cars are battered, but both are covered with glory. Day by day their progress had been noted and this evening the cars ran through Paris on their way to the Martin office. Although the Itala of Prince Borghese attracted much attention, yet his appearance in Paris was but the prelude to the fetes which will be given to the remaining three cars. The cars made an average of about 120 miles daily, a clear proof, if another were needed, that the difficulties could not have been so much with the roads as with the lack of facilities to surmount natural obstacles in the way of rivers and ravines.

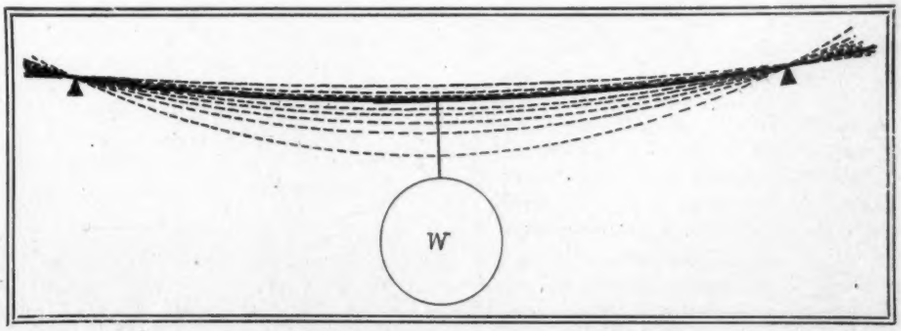


FIGURE 2—SHOWING LONG, SLOW MOVEMENTS

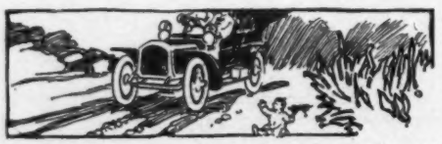
THE READERS' CLEARING HOUSE

DISAGREES WITH LOUGHEED

New York—Editor Motor Age—I read with pleasure Mr. Lougheed's answer to my letter in reference to speed change gears, as I believe by a discussion of the various questions of motor car design which arise a better type of vehicle will finally be evolved. I have taken the liberty of writing again and hope to hear from Mr. Lougheed or from any others who may or may not agree with these views. In regard to Mr. Lougheed's answer I will first say that I was impelled to state my views in reference to the possibility of eliminating speed change gears because I thought some of the statements on pages 16 and 18 of his first article of the series suggested its immediate elimination, and, like the predictions regarding the Edison battery, might have an unjustly prejudicial effect against existing systems which will continue to be used on the practical motor car for some time to come. The reference to a practical motor car has considerable bearing on the case, as a vehicle to be of practical service should be either a truck or other commercial vehicle, which Mr. Lougheed acknowledges requires a speed change gear, or a cheap, small and light-weight vehicle capable of being run economically. This precludes bringing into consideration the present types of road locomotives or any vehicles costing more than $500, as such vehicles are for pleasure or special purposes and constitute but a small percentage of the cars used. I will point out, however, that as the principal object of using the larger types of car is usually to obtain carrying capacity, with high speed, it hardly seems desirable to reduce this speed 50 per cent or more merely for the sake of eliminating the speed-change gear, as in Mr. Lougheed's instance of the Ford car, not to mention the effect on the engine of such a ratio of gearing under all conditions of service. In what position, for instance, would such a car have finished in the recent Glidden tour had it been entered? This instancing of the Ford car by Mr. Lougheed is due to his having overlooked the fact that I had reference to practical vehicles and not to what is destined to be a special type, as it does not have any bearing on my statement that there is not much chance of eliminating the speed change-gear from the "vehicle for practical use for some time to come." As to the limit of traction, it would seem as though, if the gear were such as to slip the wheels on the high speed under all ordinary conditions of road surface, there must be considerable sacrifice of the possible speed—a sacrifice of considerable importance to the type of vehicle which is in question—or something wrong with the weight distribution. As all runs of any note on the high speed have been made over selected roads, with large, low-geared cars and in charge of experts, very little is shown which might have much bearing on the subject.

The reference to the motor cycle is somewhat unfortunate just now, when the popular demand in England and on the continent, where they have had more experience in this line than over here, is for two-speed machines and where such machines have succeeded against great prejudice because of their merits over the single-geared type. Moreover, a motor cycle is generally used on good roads and is the most efficient type of vehicle that can be made and is particularly suited to single gearing. Although, as Mr. Lougheed states, heavy trucks have engines of only a small percentage of the vehicle's weight they are not generally very speedy, so there does not seem to be a necessity for making an exception of them. There does not seem to be any reason for me to retract my statement that the most successful steam automobile has a two-speed gear, notwithstanding Mr. Lougheed's reference to the Stanley and Serpollet. This latter car has not been used on American roads to any extent, although I believe that there are times when some users of this and other single geared steam machines, including the single-geared White, wish they had another speed.

I was particularly pleased with Mr. Lougheed's later article, think his engine design very fine and that he is working on the right lines in regard to air cooling, scavenging, positive feeding of the fuel, incandescent and high compression ignition and the two-cycle principle of operation. However, Mr. Lougheed's reversing engine proposition, though certainly a good one, proves my contention that, if a two-speed gear is required and such a gear can be made to give the reverse without a single extra part, it would only complicate the vehicle to use a reversing engine, since he acknowledges he provides extra parts to reverse the engine in the shape of means to rotate or change the relative camshaft position, and it is not entirely obvious why it is more complicated to add absolutely no parts to the transmission than it is to add special camshaft rotating mechanism to the engine. Even with reversing mechanism operating upon the principles of some of the common systems, it is possible to make a simpler vehicle than can be made with a reversing engine, as a reversing engine, if it is to be positive, means a multiple cylinder engine. As to fitting a geared reverse to steam and electrical vehicles, as Mr. Lougheed thinks I should advocate in order to be consistent, I would say that such a system would be advocated if the conditions were the same as in an internal combustion engine-driven vehicle, but they are not, as a steam engine is already provided with a cut-off mechanism capable of giving the reverse, while an electric motor can be run in either direction with particular ease and it does not seem necessary to prove consistency to advocate two separate reversing systems on a single vehicle.



In regard to the last part of Mr. Lougheed's answer to my letter I would call attention to the fact that nowhere in that letter was it suggested that it was "inevitable that great power and flexibility must always be accompanied by a great increase in the cost, weight and size and low efficiency of working under ordinary conditions," but simply that it will be some time before it is not accompanied by these disadvantages to a sufficient extent to make it possible to avoid the use of a simple two-speed gear with internal combustion engine-driven vehicles intended for practical work. This view the writer, and it is believed some other readers of Motor Age, are still warranted in holding notwithstanding the very good arguments Mr. Lougheed has so far presented upholding the other side of the question.—A. E. Osborn.

STEAM VALVE ARRANGEMENT

Springfield, Mass.—Editor Motor Age—In reading the Readers' Clearing House page of August 29 I thought perhaps a fellow reader might be able to help our Sacramento searcher. The arrangement of valves of White engine follows the best marine practice of foreign countries, where fuel economy is more studied than in this country. As to piston valves leaking, the low pressure cylinder cannot get more steam than the valve will admit, even though the receiver pipe held all the boiler capacity; again, if the high valve did leak the steam that finds its way past enters the receiver pipe at a reduced pressure, as low if not lower than the exhaust from the high cylinder, so the low piston does no more work than it is designed to do. Slide valves are used on low in compound engines on account of their ability to lift on their seats, as when running light the low has little or nothing to do. When condensation takes place the water thus formed is easily freed by the slide valves lifting off their seats. Were piston

valves used automatic water relief valves would have to be used, which adds to the complications and upkeep. In drifting on hills or level a D slide does not pump air so bad as a piston. A plain D slide on the high at the pressure carried by the White would give too much seat friction and would almost stick from excessive wear on valve gear, and so a balanced D slide is the solution for slide valves, but large valve housings on so small an engine would not be well. The loss of steam by leaking of the piston valves must be small and more than offset by its advantages, namely, perfect balance and freedom of action with less wear and tear on valve gear, or why is it now without exception used on all single expansion locomotives for passenger work, a field where every complication has to prove its worth and steam loss by leakage is lost entirely, so less expensive upkeep must, together with less power to move same, be less than cost of fuel of leaking steam?—C. F. M.

ENGINEERING SCHOOLS

Orient, N. Y.—Editor Motor Age—Do you consider motor car engineering to be a desirable profession for a young man to adopt? Could you advise me of a good school? And would you advise me to start the course this fall or next spring?—John H. Jagger.

It is hard to read the future, but good mechanical engineers will be in demand always and a good motor car engineer can fit any place. But to be an engineer means a technical training and not a superficial one—it means to graduate at some technical school and then work into the motor car. Any school of technology will do; try the International School of Correspondence. Begin now if you mean business.

BACKS UP LOUGHEED

New York—Editor Motor Age—The articles by Victor Lougheed will certainly make the wise designers of the United States sit up and take notice. I know he is right from my own experiments for the last 5 years. About fifteen mechanical engineers and three know-all motor papers used that carbureter smile when they heard of my motor. Can you tell me if Mr. Lougheed will come east very soon?—Oliver Light.

When last heard from it was Mr. Lougheed's intention to remain in California over winter. His address is Alma, Santa Clara county, Cal.

A. L. A. M. RATING

New York, Sept. 6—Editor Motor Age—Referring to your communication on the A. L. A. M. horsepower formula in your issue of the 22d ult., page 28, we beg to say that the statement therein that "there are but few engines on the market whose horsepower figured by this formula will correspond with that claimed by the manufacturers; the formula giving usually higher power rating" is incorrect. The formula is conservative and gives a lower horse-

power rating than a good motor will actually develop. The formula was decided upon after a careful canvass of the various members of the mechanical branch, asking what each considers a proper horsepower rating for a four-cylinder 4½-inch bore engine at 1,000 feet per minute piston speed. The answers were so nearly in accord with the horsepower formula adopted by the Automobile Club of Great Britain and Ireland, now the Royal Automobile Club, that instead of establishing a new one, it was thought best to adopt this formula:

$$\frac{D^2N}{2.5}$$

The formula was not intended primarily to be used for racing or contests, but simply as a commercial rating. However, there is no reason why it cannot be used equally well for a basis of contests of any character.—Association of Licensed Automobile Manufacturers, Coker F. Clarkson, secretary mechanical branch.

The statement referring to power was not made by Motor Age, but by Mr. Matteson, one of its readers, who has been studying horsepower rating.

THE DRIVER'S GUIDANCE

London, Aug. 29—Editor Motor Age—Having had considerable experience with chauffeurs, drivers and mechanics, good, bad and indifferent, it has been forced home on me that at least 50 per cent of the trouble which motor cars give is due to ignorance of, or carelessness as regards lubrication. At the present day there are a large number of men who are engaged to look after cars, which have cost over $5,000, who have very little mechanical knowledge. This has become possible owing to motor cars having been simplified, and made to a very great degree to look after themselves automatically. The six-cylinder Napier is so designed that the less it is adjusted or interferred with by those looking after it the better it will run, provided it is kept clean and lubricated regularly. In fact, I have often found that the six-cylinder Napier in the hands of a coachman, who has very little knowledge of its mechanism, gives better results than in the hands of a driver who has a certain amount of mechanical knowledge, and is anxious to continually adjust and meddle with the engine. To assist those who have practically no knowledge of the six-cylinder Napier, and also those who do understand them, I have had drawn up a diagram which enables the driver to make quite certain that he is not missing

any point when lubricating his car, and as each point which requires attention before a day's run is numbered he can walk around his car and count each grease cup as he turns it, and so be quite certain that he has not missed one, and the same applies to the points which require oiling. These diagrams are being given to every owner of a six-cylinder Napier car, mounted on stiff cardboard and arranged to hang up in the garage, and I feel sure that it will be one of the greatest assistance to both owners and their drivers in helping them to keep their cars in perfect running order.—S. F. Edge.

COMMUTATOR TROUBLES

Winchester, Va.—Editor Motor Age—I am having some trouble with my commutator. When the ball or roller contact is made it throws out a red-spangled spark. Will this spark double out on two or more secondary wires through the units in the coil to the spark plugs and cause firing in other cylinders before the valves are seated?—N. A. Cooper.

The sparks described will not produce sparking at the other plugs, but they should not occur, as they indicate overrapid wear and burning of the contacts. The commutator should be packed with vaseline or thin grease, which will stop the sparking referred to.

LOOSE SPOKES

Covington, Ga.—Editor Motor Age—Please advise me through the Readers' Clearing House what is best to do with a rear driving wheel when the spokes begin to show signs of getting loose in both the rim and hub and where I can likely get the work done satisfactorily.—Robert Lee.

The most satisfactory plan would be to ascertain from the maker of the car the name of the maker of the wheel and send it to him for repair. If this is not possible or is inconvenient a good wagonmaker ought to be able to fix it.

PLANS FOR GARAGE

Uniontown, Pa.—Editor Motor Age—Can you tell me where I can get plans for an up-to-date private garage for two cars, together with wash rack? My employes want to build one of brick to correspond with a $26,000 stable.—E. A. Shape.

Any good architect who can visit a number of modern garages ought to be able to prepare plans to meet the requirements in such a case as the above. Local conditions naturally will have considerable bearing in the matter and an architect ought to be consulted.

PHONOGRAPH SPRING MOTORS

Council Bluffs, Iowa—Editor Motor Age As a reader of your valuable paper, could you please inform me where I could purchase spring motors such as are used in phonographs.—Herbert Hake.

It might be advisable to try the Edison Phonograph Co.; this concern makes such motors, certainly.

AMONG THE MAKERS AND DEALERS

Sterling Resigns—C. B. Sterling has returned to his former post as sales manager of the Hicks Speed Indicator Co.

Glide Agent Appointed—John C. Kleber, of Spokane, Wash., has taken the agency for the Glide for eastern Washington.

Handling Jones' Now—Frank G. Dwight, formerly with the Knox Automobile Co., has been placed in charge of the Philadelphia office of the Jones Speedometer Co.

Lesser Selling Stearns—Arthur Lesser, for a long time with the Rainier company, has joined the Wyckoff, Church & Partridge forces. He will be associated with A. J. Picard in the Stearns department.

Show Luncheon Date—The annual show luncheon of the American Motor Car Manufacturers' Association will be given at the Manhattan hotel on Tuesday, October 29, the week of the show at Grand Central palace.

Hobbs Made Manager—The Michelin Tire Corporation, which has established an extensive plant at Milltown, N. J., has appointed J. Wilbur Hobbs, formerly with the Diamond Rubber Co., manager of its New York office.

Will Handle Only Supplies—The Powell Automobile Co., of Omaha, Neb., has sold its motor car business to H. E. Frederickson and after September 15 will devote its entire attention to the handling of supplies, tires and accessories of all kinds. It will locate at 2010 Farnam street and it is claimed its establishment is the first of the kind in that territory. Mr. Frederickson will take possession of the old Powell building at 2044-6-8 Farnam street September 17.

Midgley Spreading—The Midgley Mfg. Co., of Columbus, O., is completing large additions to its plant in that city. About 100,000 square feet have been added. The new structures are a continuation of the former building, and are adapted to the manufacture of motor goods. New machinery is being installed at a cost of $60,000, the entire expenditure being more than $100,000. Arrangements are being made to take up a number of new models for the 1908 trade.

Who Will Succeed Budlong?—There is much speculation as to who will occupy the presidential chair of the Electric Vehicle Co. now that Milton J. Budlong is out. George H. Day has been named as the next president of the company and Herbert Lloyd figures in the matter. Mr. Budlong is in Europe and expects to return about October 1. It has been a common impression that Mr. Budlong would unite with Mr. Maxim in his new venture, but this, it is said, is hardly probable. Rumor has it that the former will embark on industrial seas on his own account, thereby emulating the example of his former associates.

A. D. Shanks Out of Trade—Arthur D. Shanks, until recently connected with the Chicago branch of the Winton Motor Carriage Co., has resigned his position to enter the services of George W. Jackson, a Chicago contractor.

Starbuck a Dealer—Frank Starbuck, the one-time champion long-distance bicycle pace-follower, has a garage and repair shop at 5223-25 Market street, Philadelphia, and recently has secured the West Philadelphia sub-agency for the Buick.

Reeves Has New Engine—The Reeves Pulley Co., of Columbus, Ind., has brought out a new two-cylinder air-cooled gasoline motor, which is to be a part of its 1908 line. Details concerning the construction have not been made public, but the new engine is being tried out on a buggy runabout built merely for testing purposes. The body was built by a Columbus carriage company and as an experiment the engine is mounted behind the seat. M. O. Reeves is designer of the engine.

Toledo Business Slow—Toledo business is reported nearly at a standstill and only a few cars are being sold. The bulk of the business for this season is evidently at an end. The season has not been a bad one for the dealers there, many cars having been sold. When the bad weather conditions of the early spring dragged out to near the middle of the summer there was considerable apprehension on the part of the motor tradesmen. As soon as weather conditions became at all tolerable the trade opened up and most of the Toledo dealers did a rushing business which more than compensated them for the long delay. Considering the shortness of the season a remarkable business has been done. The volume of trade will perhaps excel that of any previous year, although it was huddled up into such a short space of time. Tourists continue to pass through Toledo, the local garages doing a flattering business with the transients. The number of these has been somewhat diminished recently, however, for some cause. Toledo motorists are always on the move when weather conditions will permit of being out. Toledo is located in the midst of a field of romantic legends, as well as historic scenes of an early day, which always furnishes an objective point for pleasure riding. Fort Meigs, Fort Miami, Turkeyfoot rock, Roche de Boeuf, the battlefield of Fallen Timbers, the historic old buildings at Maumee, and dozens of other attractive spots, are sufficient to stimulate pleasure riding, and each draws its regular daily quota of visitors. These things not only stimulate the activity of the owners of cars, but in themselves lend no small influence in measuring the annual volume of business transacted by dealers.

Jones in New Building—The Jones Speedometer Co. inaugurated last Thursday its new building at Broadway and Seventy-sixth street, New York, by a formal reception, which was attended by many motorists and tradesmen.

Avery in Gotham—The Avery Portable Lighting Co. has just opened a distributing headquarters in New York city at 51 West Sixty-third street, where a full stock of recharged tanks of all makes will be carried at that point.

Oscar Lear Moving—The Oscar Lear Automobile Co. is moving its plant from Columbus to Springfield, O., satisfactory arrangements having been made for the transfer. The company will make the Frayer-Miller car and commercial trucks in its new location.

Morrison Out Again—A. E. Morrison, of Boston, who was injured at the Lowell race meet on July 4, breaking his left leg in five places, has been able to leave the hospital and he is now at Winthrop recuperating. It will be some time before he is able to get about again. He intends to go west the first of the year and probably he will be affiliated with the F. B. Stearns company.

English Trade News—Two well-known French cars—the Bayard and the Gladiator—hitherto assembled in Paris for the English market, will in future be built in Coventry and Birmingham, respectively, It also is stated that the profits of the Coventry Daimler concern for 1907 will reach $1,500,000 and that the Humber profits will equal $925,000, which show great advances on last year's figures. Still, the stock markets are so depressed that the quotations would indicate worse balance sheets than last year.

Whitten Handling the Thomas—The Thomas agency in Boston has changed hands and the man to get it is Charles Whitten, of Lynn. Mr. Whitten has had the Lynn agency for the Thomas and Rambler cars for some years. The turning of the agency over to him was both a surprise and yet not a surprise. It has been known for some time that the Harry Fosdick company, the agent that secured it last year from Charles Henshaw, would not have it again this year. Fosdick has gone to New York and become affiliated with the Hol-Tan company as vice-president. Many thought Henshaw, the former agent, would get the Thomas again. He now has the Haynes. Then Mr. Whitten was spoken of as the probable successor of the Fosdick company. It finally landed Whitten's way. No announcement has

been made of the fact by the Thomas people nor by Mr. Whitten, but it is an open secret in the trade.

Engages Westerfield—The Staver Carriage Co. announces it has engaged the services of G. G. Westerfield, secretary of the Westerfield Motor Co., Anderson, Ind., manufacturer of gasoline engines, as the superintendent of the motor car department of the Staver company.

Will Move to New York—The headquarters of the Cleveland Motor Car Co. will be moved to New York city October 1. Cleveland cars will be finished by a New York coach builder and the distribution of the Cleveland product will be handled from Gotham. W. A. Woods, formerly with the Oldsmobile forces in New York city, has become sales manager of the Cleveland company.

Logan Directors Chosen—The regular annual meeting of the stockholders of the Logan Construction Co., of Chillicothe, O., was held at the company's plant. The regularly quarterly dividend on the preferred stock was passed, and the following directors were elected: Joseph L. Schilder, B. A. Gramm, George F. Hunter, George H. Smith, Charles F. Smith, John Kellohofer, W. A. Hall, E. L. Bergman and B. E. Stevenson.

New in the Trade—Among the late concerns to be admitted to membership in the American Motor Car Manufacturers' Association, prior to the allotment of space for the Grand Central palace show, was the Kingston Motor Car Co., of Kingston, N. Y., in which are interested E. R. Thomas and O. F. Thomas, the New York bankers; F. E. Moscovitz and W. Gould Brokaw. The entire output of the concern, whose car is a four-cylinder runabout and known as the A. K., will be marketed by the Allen-Kingston Motor Co., of New York, the president of which is Walter C. Allen, who is also president of the de Dietrich Import Co.

Opens a Mitchell Garage—James J. Flynn has opened the Mitchell garage at 1028 Connecticut avenue, N. W., Washington, D. C., to accommodate his patrons in the northwest section of the capital. He will also continue his Capitol hill garage.

Firestone Appointments—John D. Hodgkins, for several years manager of the St. Louis branch of the Firestone Tire and Rubber Co., will hereafter represent the company at Atlanta, Ga. O. O. Petty has been appointed manager of the St. Louis office of the concern.

Howell in for Himself—R. G. Howell has resigned as manager of the Franklin department of Wyckoff, Church & Partridge, New York, and will embark in business for himself in New York city. He will take an exclusive agency, but has not yet decided on the particular line he will carry.

Houpt Making Alterations—Extensive alterations are being made at the garage of the Harry S. Houpt Co., New York agent for the Thomas cars, to afford a larger show room. The entire Broadway front with five great show windows will be devoted to the display of the 1908 models of the Thomas.

Hutchinson Adds Motor Cars—R. M. Hutchinson, proprietor of the Morton Place Livery Co., in Indianapolis, has just added motor cars to his business and last week took possession of one of the finest garages in the city. It is located at 1839 North New Jersey street and is one of the few public garages in the heart of the exclusive north side residence district. It has a capacity of fifty cars. Hutchinson will also represent the Moline line of touring cars in Indiana. H. A. Ray, who has had 12 years' experience assembling and building cars in London, England, has been placed in charge of the garage.

Conant in New Role—W. H. Conant, former manager of the vehicle battery department of the Gould Storage Battery Co., has been made general manager of the Pittsburg Motor Vehicle Co.

New M. & W. Branch—The southern California trade of Morgan & Wright has been growing so rapidly it has been found necessary to open a branch at 118-20-22 East Tenth street, Los Angeles, where a complete line of motor car, truck and bicycle tires will be carried and a repair department maintained.

Ingersoll Made Sales Manager—R. E. Ingersoll, who has been special representative for Reo and Premier cars in the central states during the past 2 years, and who, prior thereto, for 4 years occupied a position in the sales department of the Pope Mfg. Co., has been appointed manager of sales for the New York branch of R. M. Owen & Co.

Firestone on a Trip—Robert J. Firestone, sales manager of the Firestone Tire and Rubber Co., left Monday on a month's trip to Mexico and Pacific coast points. He will remain for some time in the City of Mexico to establish a branch for the Firestone company, after which he will proceed on a general tour of inspection of the Pacific coast agencies.

Blomstrom Opens Branch—The Blomstrom Mfg. Co., of Detroit, has opened a New York branch with temporary headquarters at 2330 Broadway and placed George S. Morrow in charge. Through Mr. Morrow agencies for the Blomstrom Thirty have been placed at Boston and Philadelphia, accompanied by respective orders for fifty and twenty-five cars.

TRADE IN AND AROUND BOSTON SUBSTANTIAL

BOSTON, Mass., Sept. 11—Business is good around Boston. There are two reasons for this. In the first place New Englanders are proverbially conservative. They did not rush out to meet the motor car with open arms imploring the industry to send machines here. They waited until the dealers got good and ready to come to them. Then the people looked over the cars, thought it over and waiter some more. The factory men allotted Boston a few cars, thought it over and waited some more. there were nothing but woods in Maine, mountains in New Hampshire and farms in Vermont. They figured out that motor cars were not needed by the Maine hunters, by the mountaineers of New Hampshire or by the farmers of Vermont. Then along came a couple of former Yankees who knew the territory and they began unloading cars at various points and they sold them before others woke to the fact that there was a large field here for motor cars. But everyone did not buy at once. The great number waited to see how their neighbors made out with their cars. They had to be shown by the dealers in motor cars.

The only reason is because the show season here is in March. That means spring has set in before anyone begins to get the show fever. In March there flock to Boston hundreds of prosperous people from all New England bent on making purchases of spring goods. Many of them time their visit now to take in the motor show. Then they wander around and place their orders. You cannot make them do it earlier. Some of the dealers get orders, of course, all through the winter, but they are from city folk. N amount of coaxing or threats of being left without a car unless the order is in will hurry matters. They feel if one man cannot supply the car another one will be there with a machine just as good. So there you are.

As a result of this the winter fluctuations are all over and business is on a normal basis by the time the sales begin to boom here. The failures of concerns here are not regular things. There have been a couple recently, but the loss was not a great deal. The Bay State Automobile Co. went under, but it conducted a garage and did a motor cab business. It was not actively interested in the making of cars. The Holmes company, of East Boston, went under, too, but it will get going again, it is said. In the latter case the company turned out very few cars; had a small plant and its product was not generally known even among the trade here. The amount involved in its bankruptcy was but a few thousand dollars. When it is considered what an immense amount of money has been invested in new buildings and the number of concerns represented here the losses are practically insignificant. The new garages completed for the White and Locomobile companies alone, both on one street, represent an outlay of $300,000. If the business were on the decline no such an amount of money would be expended.

THE REALM of the COMMERCIAL CAR

London Motor Buses Invade Gotham

"JOHN BULL IS POKING HIS NOSE INTO GOTHAM."

"LONDONIZING Gotham" is how one Fifth avenue enthusiast recently termed the introduction of the double-deck motor bus on New York's fashion artery—Fifth avenue. Although the Londonizing is not so apparent as if a Thames fog had settled over Manhattan, precluding the upper nineteen stories of the sky-scrapers from the gaze of the sidewalk pedestrians, yet the conquest is apparent, and the fact that fifteen imported double-deckers are running on schedule, with prospects of ten more being added within a fortnight, is sufficiently assuring to warrant the comment that "John Bull is surely poking his nose into the city streets." There is no fear of an invasion. The 977 motor buses operating in Greater London will not add a transatlantic voyage to their myriad experiences and then sight-see for a season or two up and down Broadway and Fifth avenue, with an occasional excursion up Riverside. They are all too busy picking up the penny fares on Picadilly and the Strand to go on such ventures.

But if London is the home of the horse bus and later the motor bus, then it must be accepted that the Londonizing is taking place. The process started several months ago, when a few of the two-story class of horse buses began the round trip up and down Fifth avenue, with Central park and Washington square the turning points. These picturesque conveyances set the ball rolling, started New York transportation people thinking and soon after the motor bus was whispered in inner circles. But Father Knickerbocker was caught napping; for while he slept staid Philadelphia grasped the opportunity and started its electric buses up and down its Broadway, while William Penn looked solemnly on from the old hall tower. Philadelphia started with electric buses, but Gotham, with the real goods, was content with nothing but the gasoline type and imitated the foreigner by the omnipresent signs in which the second-story passengers are swathed.

New York and Philadelphia offer fruitful fields for the motor bus, New York because Fifth avenue residents never will consent to the laying of trolley tracks and Philadelphia partly because of the same reason. In both cities the traffic is so immense as to warrant a good bus system. The tourist trade up and down Fifth avenue alone is sufficient to insure the success of the venture, and in Philadelphia the resident traffic along Broadway and near-by streets also is heavy. The New York buses, De Dion-Boutons, are of the accepted four-cylinder style, with the motor housed under a forward bonnet, speed variations through a gearset and final drive by shaft. The buses have good passenger accommodation and are capable of as high speeds as are safe for their field of operation.

It is hoped both the New York and Philadelphia ventures will be free from many of the evils that have crept into the London service—not evils to the passengers, but to the operators of the system. To explain: At present there are operating in Greater London 977 motor buses, the majority gasoline, a few steam, one a gasoline-electric design and a dozen electric. These buses are owned by seventeen different corporations, the largest operating the Vanguard buses, having 343 Vanguards in service. Other companies operate 188, 184, sixty-seven, fifty-four, thirty-five, twenty-nine, twenty-four, fifteen, nine, five, four and three buses, respectively. All the seventeen companies wanted to operate over the same streets. A pioneer concern made a good selection for a system and soon a rival company began running its buses over the same streets with the avowed object of running the pioneer off the route. As it generally happens the pioneer was there for keeps and the newcomer had to look for newer fields. Because of this short-sighted policy a couple of the big companies went into liquidation early in July. One of the companies operated sixty-seven buses and the other nine. Their failure was the result of their own acts—they wanted to run others off a route, they cut rates to do this and died in the failure. Greater London is big enough for the 977 motor buses now in operation and for thousands more, but if they all want to go on the same course then failures will come. New York promoters should guard against this error and parties contemplating going into the venture will do well to remember that New York has other streets besides Fifth avenue, and that all the persons desiring to use buses are not habitues of this fashionable thoroughfare or Broadway.

Tourists who have counted London in their pilgrimage speak in glowing terms of the motor bus and mention how it is invariably crowded, while many of the older horse buses beg for passengers. The London bus has had its trials and tribulations and many have been the arrows of vituperation aimed at it by the metropolitan press and others, but in spite of all the Vanguards have demonstrated to the cockneys that the motor bus is feasible and that they have come to stay. At first the noise disturbed the fog and incidentally a few of the West End elite; later the smoke clouded the atmosphere until the

council remedied the abuse; then the skidding of the buses incited the wrath of the lord mayor, and finally the painting on parts of the buses was the target for municipal criticism. At last these have all subsided. The city police now inspect each new bus before it goes on service, carefully measuring as they do every seat, every door width, every step, every window and every blind to see that they conform to the requirements of the city. These motor bus Vesuviuses have done good, much of the smoke has cleared away, the noise has to a great extent ceased and the motor bus is reaping a good harvest. New York can profit by all the experiences gained across the pond.

On South Broadway the Motor Bus Does Its Share

SWITZERLAND WIDE AWAKE

Commenting on the Swiss motor car exhibition recently held in Zurich, an American consular officer reports that practically all the cars shown were of Swiss manufacture, the only exceptions being a few cars of German and French make. The class of motors that attracted most attention, and in which the greatest general interest was shown, was in the heavy truck and freight motors and motor buses. As a means of testing the capacity of this class of motors and demonstrating their utility as transports for heavy cargo, especially on long-distance hauls, a road competition was arranged. The competitive run was for 5 days, covering a total distance of 265 miles, the greatest distance scheduled for one day being 85 miles. There were eighteen entries for the road competition, sixteen of which were Swiss machines, one German and one French. Two of the cars entered in the competition were equipped with pneumatic tires, one with iron and the others with solid rubber tires. They carried 3,000 to 9,000 pounds of cargo, according to their respective horsepower. The 5 days' competitive run was as follows: First day, Zurich to Basel; second, Basel to Berne; third, Berne to Thun; four, Thun to Lucerne; fifth, Lucerne to Zurich. The course included much mountainous country, in some parts of which the roads are rough and stony, yet the majority of the cars maintained a good rate of speed throughout the 5 days, the last 33 miles being covered in 1 hour and 49 minutes.

COMMERCIALETTES

The Adams Express Co. put eighteen electric trucks in operation in Indianapolis on September 1 and on the same day it retired twenty-two horse-drawn delivery wagons that have been in use in that city for many years. Some of the vehicles reached the city in August and all will be of the type manufactured by the General Electric Co. of Long Island. There are sixteen 1-ton and 2-ton trucks. A garage is being completed and will be for the exclusive use of express trucks.

E. P. Blake, the Boston agent for the Logan cars and trucks, believes in making hay while the sun shines. During the old-home-week celebration when Boston was thronged with sightseers every day Mr. Blake used his Logan buses as rubberneck wagons and he made good money.

J. H. Van Harlington, of Bloomfield, Ia., relates a triumph in a new field, hitherto unexplored by the motor. The volunteer fire department of that little city does not boast the ownership of fire horses, relying upon the first team that arrives on the scene to convey the fire apparatus to the conflagration. During a recent blaze a Holsman runabout was the first to arrive and hooking on to the heavy engine dragged it half a mile, up and down grade, to the fire with more speed than could be attained with horses. Considering that there were four men on the machine and ten men on the engine, the feat was the subject of much favorable comment.

Some time ago several German capitalists tried to obtain the sole right to commercial motor car traffic in Greece and to organize a company. They were unsuccessful in this, but drew attention of the Greeks to the possibilities of the matter with the result that a Greek company has been formed with the object of acquiring, selling, hiring, repairing and constructing private motor cars and motor boats. The duration of the company is to be 20 years and the capital is $52,447. Great opposition to the scheme is being shown by all the horse cabmen and users and the matter has been brought to the prime minister's attention with the object of having the company liquidated.

"In New York I Am Monarch of All I Survey"

FROM THE FOUR WINDS

Virginians Organize—A good association has been formed in Richmond, Va., under the name of the Virginia Automobile Association, which is to succeed the Richmond Automobile Club. The following officers were elected: President, R. A. Nichols; vice-president, J. H. Swartwout; secretary and treasurer, M. Alfriend.

Hill-Climb Postponed—The first hill-climb of the Automobile Club of Hartford, scheduled for last Saturday, was postponed on account of the poor condition of the course. The meet will be held, weather permitting, September 14. About thirty-five entries have been received to date and of these seven are Corbins and five Pope-Hartfords. A few six-cylinder machines have been entered.

Motor Car for Workmen—A contract has been closed between the Standard Oil Co. and the Findlay Auto Transit Co., whereby the latter will convey the workmen on the pipe lines between Cygnet and Lima to and from their work. The big motor car leaves the courthouse at Findlay, O., every morning at 6 a. m., taking the workmen out, and brings them back at the same time each evening.

Ramblers Win Hill-Climb—The Rambler won two firsts and one third in the hill-climb at Iron Mountain, Mich. In the events in which the model 24 won a Kisselkar, Columbia, Apperson, Haynes, Winton and Marmon were beaten in the first event and a Ford six, Pierce-Arrow, Packard, Thomas, Berliet and several others in the second, so it is announced in advices from the Michigan town.

New York Registrations—New York registrations of cars during August were 1,196, a gain of 120 over 1906, the leaders being: Ford, 137; Maxwell, 79; Cadillac, 66; Oldsmobile, 44; Pope, 40; Reo, 38; Buick, 34; Pierce, 27; Packard, 21; Locomobile, 19; Thomas, 19, and Rainier, 18. Sixty-three foreign cars were registered, the leaders being: Fiat, 9; Darracq, 8; Renault, 8; Mercedes, 4, and Panhard, 4. Up to September 1 the total New York registrations were 46,974, of which 13,747 were registered since September 1, 1906.

Will Not Test Law—The expected test of Indiana's new gravel road law is not to be made at present. At least it will not be made by the commissioners of Howard county, who summarily ordered surveyors and engineers to quit work on sixty-seven new roads in that county. After considerable deliberation the commissioners have agreed that they acted too hastily in the matter and have ordered the work resumed. An expense of about $6,000 had been incurred in having the roads surveyed and appraisements made and the commissioners did not like the idea of losing this amount. The new roads will cost something more than $500,000 and the expense will be divided equally among all of the taxpayers in the county. None of the roads will be more than 3 miles long.

Toledo Becomes Cautious—"Slow down to 10 miles an hour" is the sign that will greet all motorists as they enter the city of Toledo. These signs will be placed at the corporation limits at every entrance into the city for the benefit of tourists and visiting motorists, who otherwise might violate the speed ordinances of the city.

Increases Tolls—In consequence of the improved condition of the thoroughfare along Charles street avenue, Baltimore, the tolls for motor cars has been increased to double the original amount. The schedule of rates calls for a charge of 10 cents each way for cars of one seat and 20 cents each way for cars of two seats or more. Tarvia has been used as a top dressing for this improved road.

Aids a Cripple—In a very satisfactory manner the motor car has met the needs of L. V. Elliott, an Indianapolis cripple and the head of the Elliott Telephone and Electric Co., of that city. For years Mr. Elliott has been suffering from a spinal disease and has been compelled to use a hand-propelled tricycle. This proved tiresome and Elliott longed for some faster means of transportation. He has found it in a car made to his order and which is considerably smaller than the usual car. It is propelled by electricity and is so small that it can be run from the street into his place of business and up to the side of his desk. It cost something over $600 to build the little car.

Climbs Pike's Peak—A 45-horsepower Stearns is the first touring car to climb the steep slope of Pike's peak and reach the summit, it is claimed. Over a rocky road, up an average grade of 7 per cent, many stretches being 10 and 12, J. D. Hollingshead, of Denver, with a party of six, accomplished the feat last Thursday. The ascent was made absolutely unaided and the car was fully equipped and loaded. Mr. Hollingshead and party left Colorado Springs, 6 miles from the base of the peak, at 10:30 in the morning, and, taking the old Cascade cañon trail, made the distance of 27 miles in 4 hours, arriving at the summit at 2:30 p. m. In the party with Mr. Hollingshead were Mr. and Mrs. H. D. Charlton, also of Denver; Mr. and Mrs. P. H. Greer and son, of Shawnee, Okla., and the driver, F. W. Leland. No accident befell the car or the members of the party—the only damage sustained was by the fenders, and that because of the narrowness of the roadway. The next morning the women of the party came down by cog road train and the men returned in the motor car. Seven years ago John Brisbane Walker made the trip in a Mobile runabout, taking along one of his sons. A year later W. B. Felker, who was killed Labor day in the races in Denver, tried to reach the summit in a Locomobile, but when about half way up he had to get assistance to complete the trip.

Like Oiled Roads—Marion county, Ind., commissioners were so pleased with a free test of oiled roads that they have ordered two additional roads oiled and the work will be continued until practically all of the highways in the county are dustproof. The trial test was made by the Indian Refining Co., of Georgetown, Ky. The commissioners believe if the roads are oiled twice a year there will not be need of so many repairs.

Pleasure and Business Combined—S. E. Wherritt, manager of the Chicago Pierce-Racine branch, accompanied by his wife and sister-in-law, started Saturday on a tour from Chicago to New York in a 1908 40-horsepower Pierce-Racine. His is a unique trip. He intends visiting the trade in the various cities en route, but at the same time his main object in making the trip is to gather data for tourists and demonstrate just how easily a jaunt of this sort can be made by a man and his family. Mr. Wherritt will be on the road 7 or 8 days.

Bars Searchlights—A new ordinance which forbids the use of searchlights on motor cars became a law in Indianapolis last week. As soon as the ordinance went into effect Chief Robert Metzger ordered the police to begin making arrests. The first victim was Edward Flanagan, a business man of Arcadia, who was visiting in the city. Mr. Flanagan never had heard of the ordinance, but that made no difference with the police. The dealers held a conference with Chief Metzger last Thursday, and as a result the sale of lights that come under the ban likely will be stopped.

Motoring Volunteer Corps—The Swiss federal council has approved the contract passed between the minister of war and the Swiss Automobile Club with regard to the formation of a corps of volunteer motorists. The club places at the disposal of the military authorities a number of motorists and cars. During the period of service the members of this corps will have to submit to military discipline and jurisdiction. The cars offered range from 18 to 36 horsepower. The volunteers will have a special uniform and will be armed with revolvers. War department officials in this country intend to give this subject deep consideration and it is possible a similar corps will be organized in this country.

LEGAL LIGHTS AND SIDE LIGHTS

THAT NANTUCKET CASE

The second round of the legal battle between F. J. Tyler, of Boston, and the officials guarding the sacred precincts of Nantucket from the threatened invasion of motor cars was fought out before Judge Loring in the supreme court in Boston last Friday. William A. Thibodeau, counsel for Mr. Tyler, presented his petition asking for a writ of prohibition restraining Justice Mooers from trying the case against his client. The attorney cited a number of instances where such decisions had been made along parallel lines. Mr. Thibodeau's contention was that Justice Mooers exceeded his authority in issuing a complaint when the facts were put before him and that it was an excess of power on his part to try the case knowing that the ordinances were void. He claimed it were better to prevent an error being made than to have to fight and correct one later on. Judge Loring asked the attorney if he did not think there was a remedy left him in case Mr. Tyler was found guilty by appealing to the superior court. Mr. Thibodeau agreed that there was, but that it would prolong the case at an expense to his client and an injury to his business when a decision now would settle the matter at once. Justice Mooers and the Nantucket selectmen were represented by J. W. Swift, of Fall River. The latter filed a demurrer asking that the petition be dismissed because Justice Mooers had not yet heard the case and there was no telling how he would decide it. He said in another case on the island Justice Mooers decided in favor of the motorists. Some interesting cases were cited by Mr. Swift, too, bearing out the contention that Justice Mooers should not be deprived of the right given him by the legislature to try any cases that came before him. Judge Loring took the question under advisement and so this round ended in a draw. The honors are still with Mr. Tyler, for Justice Mooers is not to make any attempt to try the case against Mr. Tyler pending Judge Loring's decision.

INCREASES SPEED LIMIT

The city of Hartford, Conn., with its 100,000 population, has one of the best park systems in the country, and the roads for the most part are excellent. Quite naturally motorists are wont to make extensive use of these, their only restriction being a speed of 6 miles an hour. Goodwin park is one of the favorite haunts of the fraternity and the roads of good macadam are conducive to speed. Commissioner Fairfield, who presides over this park, to establish beyond all question of doubt the speed attained by the numerous machines passing in and out of the gates, had a man watch the cars for 3 days. The results of the plotted charts showed the highest speed attained to be 26 miles an hour and the lowest 6 miles an hour. On the strength of this the park board decided to increase the limit to 10 miles an hour in all parks, including West Bushnell. The main road through West Bushnell park is very steep and is used extensively by dealers for hill-climbing demonstrations, which must cease now. As this grade is particularly steep a speed of 10 miles an hour is inadequate.

MOTOR WORM TURNS

The town of Longmeadow, Mass., has loomed into prominence of a kind not envied by most towns because of the action of one of its constables. His name is C. M. Hanrattle. He probably saw that Jim Quinn, of Leicester, had been squelched and that there was a chance for him to jump into the limelight and he has succeeded. Before he gets through both the town and constable may be sorry. Longmeadow is on the road from New York to Boston and it is traveled by many tourists going to and coming from the metropolis. So the town passed an ordinance limiting the speed, appointed Constable Hanrattle to enforce it and awaited results. They were not long in coming. With great zeal the official began his crusade and soon his name was heard throughout the commonwealth as a terror to motorists. Going through the town a few days ago was Herbert S. Darlington, a wealthy Philadelphia merchant, on his way home from a tour of the mountains. He had not heard of Hanrattle. But when he started to pass through Longmeadow he soon became aware of the constable's presence. With a melodramatic flourish the latter leaped out of the roadway and demanded to see the license of the operator of the car. The chauffeur objected and Mr. Darlington backed him up. But Hanrattle was not to be put down so easily. He jumped upon the car and it is alleged that with his trusty club he struck the driver across the hand, fracturing his thumb. This made Mr. Darlington thoroughly angry and he returned to Springfield and started to do things. His driver was arrested, charged with speeding and failing to show his license. He was fined and appealed. Now Mr. Darlington has brought suit against the selectmen of the town for $5,000 damages for false arrest and imprisonment; has placed an attachment on the property of two of them and promises to show them it does not pay to go too far with motorists, for the worm will sometimes turn. This is only one of the many cases in which the Massachusetts motorists are interested at the present time.

SPLITTING HAIRS

Some of the visiting tourists to Massachusetts have been put to a troublesome anonyance lately because the state highway commission have found another little piece of law to enforce in the last statute passed. In making the law the members of the legislature intended that visiting motorists could pass through the state without any bother and stay 7 days, although the highway commission wanted to make it 2 days. Now the commission has gained its point in another manner, for the statute says that "any automobile owned by a non-resident of this state who has complied with the laws of the state in which he resides relative to the operation of motor vehicles may be operated by such owner on the roads of this state for a period of 7 days without a license of the Massachusetts highway commission." The commission has ruled that under a strict interpretation of this ruling the man who comes into the state with a chauffeur driving his car must take the wheel from the operator immediately on crossing the state line. It is a technical quibble that has put some motorists to an inconvenience for when they could not run their own car it meant stalling it until the operator got a Massachusetts license at a cost of $2. Of course the legislature never intended any such thing, but the high and mighty commissions looks wise and says, "There is the law, we are to enforce it." As a result country constables have now turned their attention to another golden harvest for them to reap.

BAY STATE REGISTRATION

The work of reregistering the motor cars in Massachusetts under the new law is very nearly completed and the highway commission and the motor people in general have been surprised at the shrinkage in the number of cars in the Bay State. It was supposed that there were at least 12,000 machines and some claimed that the number was nearly 20,000 in use in Massachusetts and that at $5 per car quite a good-sized sum would be realized. The total number registered up to September 1 reached 9,250. That, of course, does not represent all the cars in the state. There are some men who have stored their machines, others who believe the law is unjust and refuse to pay the money and more who are out of the commonwealth traveling with their machines. When the work is finally completed there probably will be 10,000 machines registered. The amount of money so far secured amounts to nearly $45,000. As the state will get another sum greater than that in January it will have enough to worry along with for the repair of highway next spring.

BRIEF BUSINESS ANNOUNCEMENTS

Fall River, Mass.—J. H. Rafferty has been appointed the local agent for the Mitchell.

Long Beach, Cal.—J. J. Driscoll has started a motor bus line between this town and Alamitos.

Lima, O.—H. A. Mack is to erect a new garage on the site of his present plant on East Market street.

Pittsburg, Pa.—A. G. Somerville has been appointed agent in western Pennsylvania for the Dragon.

Austin, Tex.—The Western Motor Car Co., of Dallas, has been incorporated with a capital stock of $5,000.

Tacoma, Wash.—E. R. Wheeler is planning to erect a garage at North Ninth street and Yakima avenue.

Boston, Mass.—The Corey Hill Garage Co., of Brookline, has been incorporated with a capital stock of $5,000.

Chicago, Ill.—The Reliable Dayton Motor Co. is to erect a new factory at Fifty-seventh street and Ashland avenue.

West Derry, Conn.—William F. Moore has been appointed manager of the garage and machine shop of the Derry Auto Co.

New York—Plans have been filed for the erection of a three-story garage to be built at 118 East Eighty-third street for S. Duncan of this city.

Roanoke, Va.—The Roanoke Automobile Co. has removed from 107 Church street to its new building at 105-107 Franklin road.

Lansing, Mich.—The Packard Motor Co., of Warren, O., and Detroit, has increased its capital stock from $1,000,000 to $1,500,000.

Kittery, Me.—The Curtiss Motor Vehicle Co. has been incorporated with a capital stock of $600,000 and will manufacture motors of all kinds.

Boston, Mass.—The Butler Automobile Co. has been incorporated with a capital stock of $25,000, and will manufacture motor cars and motor boats.

Cleveland, O.—J. T. Tehen has been appointed manager of the Metropolitan Motor Car Co. W. C. Anderson, formerly president, has severed his connection with the company.

Chester, Pa.—The Johnson Motor Co., of this city, has increased its capital stock to $50,000. The output will be increased, and probably the company will now give employment to 600 additional men.

Utica, N. Y.—The Electric Garage Co. has been incorporated with a capital stock of $3,000 and will deal in motor cars, storage of cars, etc. The incorporators are L. L. Ashley, J. J. Schimmel, Jr., and G. M. Rabenstein.

Columbus, Ind.—A company has been organized to run a motor bus line between this city and Hope.

Boston, Mass.—B. A. Robertson, a dealer of Worcester, has filed a petition in bankruptcy, with assets of about $4,000 and liabilities of over $20,000.

New York—E. L. De Camp has been appointed manager of the local branch of the Buick company, with headquarters at Broadway and Fifty-fourth street.

Ithaca, N. Y.—The J. B. Lang Engine & Garage Co. has been incorporated with a capital stock of $18,000 and will manufacture engines, boilers, machinery, and will conduct a garage.

Buffalo, N. Y.—The American Motor Cooling Co. has been incorporated with a capital stock of $20,000 and will manufacture radiators, cooling devices for motors, etc. The incorporators are M. F. Dirnberger and O. B. Angspurger.

Birmingham, Ala.—The Birmingham Auto Transfer Co. has been incorporated with a capital stock of $5,000, and will do a general transfer, freight and passenger business and will use motor cars. The company will also deal in motor cars.

Zanesville, O.—Charles E. Fix, formerly connected with the Buckeye garage, has severed his connection with that concern and has formed a new company to be known as the Charles E. Fix Automobile Co. It will have headquarters on Ninth street.

Lima, O.—The Lima Automobile Co. has been incorporated with a capital stock of $25,000. A new concern has been organized to be known as the Lima Motor Car Company, which has leased a garage on Union street. W. E. Endy and Lee Beeler are the members of the new concern.

RECENT INCORPORATIONS

Salt Lake City, Utah—Auto Mfg. and Supply Co.; capital stock, $50,000. A. T. Egan is the president of the company, G. I. Morris, vice-president, and F. J. Curtis, secretary and treasurer.

Utica, N. Y.—Electric Garage Co.; capital stock, $5,000. Incorporators, L. L. Ashley, J. J. Schimmel, Jr., and G. M. Rubenstein. The concern will buy and sell motor cars, and conduct a garage and repair shop.

New York—Morris Park Motordrome Co.; capital stock, $1,000. Incorporators, J. D. Fearhake, J. A. Hock and J. H. Kilburn, all of New York city.

Boston, Mass.—Butler Automobile Supply Co.; capital stock, $25,000; to manufacture motor cars and motor boats. A. C. Hayes is the president of the company, and H. M. Butler, treasurer.

Washington, D. C.—Thomas & Tolman Automobile Co.; capital stock, $25,000; to build a garage at 1828 L street Northwest. Incorporators, J. R. and G. H. Thomas and Bertha F. Tolman.

Rochester, N. Y.—J. W. Jenkins is preparing to erect a new factory on University avenue.

Tacoma, Wash.—The Sound Motor Vehicle Co. has been incorporated with a capital stock of $20,000.

San Francisco, Cal.—Two garages have been burned out. One, the Howard Automobile Co., sustained a loss of $30,000 in cars and supplies.

San Jose, Cal.—Work has been commenced on the new garage of the Rambler company, which is to be erected at North Market and St. James streets.

New York—A petition has been filed in bankruptcy against Paul L. Snutzel, of 1535 Broadway. This corporation was incorporated on March 30, 1907, to continue the business of the Snutzel Auto Supply Co., of which concern Mr. Snutzel was president and treasurer.

Buffalo, N. Y.—The Auto Car Equipment Co. has bought a tract of land at Elmwood and Hertel avenues and will commence the erection of a factory building. The company manufactures motor trucks, passenger trucks, drays and motor vehicles for all commercial purposes.

Memphis, Tenn.—The Lilly Carriage Co. is about to erect an addition to its factory on Union street. One of the features of the new building will be a garage. In addition to its carriage business the company will be prepared to build new bodies, remodel old ones, build new tops, etc.

San Jose, Cal.—A new garage is to be built at San Pedro and Market streets. It will be used by F. H. Bush and Wallace Brothers. Mr. Bush is to have charge of the demonstration work, while Wallace Brothers will have the repair department as their share of the business. The concern will handle the Maxwell and Rambler in this section.

Houston, Tex.—The new Mosehart & Kellar Co., which was incorporated with a capital stock of $15,000, will take over the motor car department of the Mosehart & Kellar Co., which also has a wagon and carriage business. The new company will occupy the old quarters of the concern on Franklin avenue, while the carriage company will be located in the new building on Caroline street.

Brooklyn, N. Y.—The Ormond Automobile Co. is desirous of removing from its present location on Ormond place, but has not yet found a suitable place to go to. The Corwin-Campbell company expects to be located in its new quarters by the end of the week. The new building of the Prospect Park South garage is almost finished, and the company expects to move in in the near future.